MANAGEMENT AND QUALITY CIRCLES: CASE STUDIES IN DIRECT PARTICIPATION

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This thesis has been composed by me
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Abstract

Quality circles are small groups of volunteers from the same work area who, under the guidance of a supervisor acting as circle leader, meet regularly to investigate work-related issues and devise solutions to these problems. Since their diffusion from Japan in the late 1970s, they have been adopted by numerous companies worldwide, perhaps by as many as two or three hundred in the UK alone. Participants are trained, usually by external consultants, in statistical problem-solving techniques; leaders and facilitators are also given instruction in group management, motivation, communication and leadership.

The aim of this research is to investigate the factors which affect the institutionalisation of quality circles and the role played by management in the circles. Five case studies are presented, each based on a company in Central Scotland who introduced circles in the early 1980s. All five were non-union companies, four were American-owned, and four were in electronic engineering. Data were collected in three phases between 1983 and 1986 using a range of techniques - focussed interview, group interview, observation, survey questionnaire and analysis of documentary material. In addition, an extensive literature review of research on both participation and quality circles was conducted. The data are analysed from three perspectives - marketing-and-training, systems, and interest-groups - and discussed in relation to situational and human factors affecting the outcomes of participation.

The research data indicate that quality circles are attractive to 'sophisticated paternalist' non-union companies. The results also suggest that quality circles encounter problems common to programmes of participation and organisational change - issues of power and authority, management opposition and organisational barriers ; moreover, they raise difficulties specific to quality circles, particularly in relation to resources and rewards, training and expertise, and problem choice and solution implementation.

Overall, it is concluded that quality circles cannot easily be assimilated into existing organisational power structures and that their presence may threaten some managers, especially middle managers. Without a supportive environment and appropriate organisational systems, quality circles are unlikely to function effectively and may cease to operate.

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CHAPTER 1

1.1 Origin of the Research

Quality circles arrived in Britain via the US from Japan towards the end of the 1970s and, over the next decade, were adopted by a significant number of organisations. Most of these organisations employed the services of consultants to assist in the introduction and carry out the training. Early reports of these quality circle programmes seemed to indicate that the circles were readily assimilated into these organisations and were quickly contributing large savings and innovative suggestions.

Much of the research conducted into circle programmes in the early years reinforced this impression. However, doubts were raised when it began to emerge that after an initial period of success, many circles were encountering difficulties which were causing failure - either individual circles or entire programmes were failing. The penetration of quality circles also seemed limited; in most cases, less than 10% of the employees in any organisation were involved in circles at any time. Their effect on the organisations seemed restricted to a small proportion of the workforce. Clearly, institutionalisation was proving problematic.

Direct participation of the form found in quality circles was not new in either the USA or the UK. Indeed, many saw quality circles as the next in a line of participatory work forms typical of those advocated by the Quality of Working Life

movement. Many of the initiatives of the 1960s and 1970s - job enrichment, autonomous work groups and so on - had had no more long-term success than the quality circles were having. Nevertheless, there was an apparent reluctance on the part of those involved in quality circles to learn from the experiences of organisations who had adopted earlier forms of participation and involvement. Earlier research may have produced some clues as to the apparent tendency for quality circles to self-destruct within five years.

By the mid-1980s, quality circles were widely written about. They had become an entry in almost every text book on Organisational Behaviour and a concept mentioned by every academic teaching about the use of human resources in organisations. As is so often the case, the elaborate claims of successes by consultants and adopting organisations were not balanced by objective assessments by researchers who did not share their vested interest in producing and promoting yet another form of participation. As Dean (1987) pointed out, "it is extraordinary that a practice that has been adopted by (at least) hundreds of American firms has generated only a handful of empirical articles and conceptual pieces" (p.153).

Outside the USA the same situation held. There was a dearth of research which took a critical look at why organisations were introducing circles, whether the benefits outweighed the costs, the barriers to institutionalisation, their effects on those involved and any number of viable theoretical issues. Much of

the research carried out in the UK was of the large scale survey type using postal questionnaires, whose validity and reliability is often questionable.

1.2 Scope of the Research

Clearly, a large number of research questions are raised in association with quality circles. At the same time, there are practical constraints on the scope of the data a single researcher, with limited resources, can competently gather. The type of research also needed careful consideration. Earlier survey-based research indicated the weakness of aiming for breadth of coverage with only limited depth. For this and other reasons, a case study approach was chosen.

Yin's (1984) definition of a case study was used:

> "A case study is an empirical inquiry that:
>
> - investigates a contemporary phenomenon within its real-life context when
> - the boundaries between phenomenon and context are not clearly evident; and
> - multiple sources of evidence are used".(p.23)

This research is based on five organisations in Scotland who introduced quality circles in the early 1980s. The aim was to follow the circle programme over a period of three years and periodically interview a range of people, some closely connected with the quality circles, others who had little or no contact with them. Observation was also employed. In addition, two surveys were carried out and company data analysed. Both qualitative and quantitative data were collected.

The fieldwork fell into three phases; initially, contact was made with sixteen organisations in Central Scotland who were interested in quality circles. Of these, only five were considered suitable for research. In the second phase of the research, data on the circles was gathered using focussed interviews with individuals, small groups and dyads. Finally, one organisation was singled out where further interviews and a survey were conducted.

Case studies have the disadvantage that the data they produce are not readily generalizable. However, in this research, the use of four complementary case studies to compare and contrast with the main case was designed to help reduce this problem of external validity.

The empirical data gathered in the five organisations are analyzed from three complementary analytical perspectives - marketing-and-training, organisational systems, and interest-groups. These perspectives, in turn, reflect three separate approaches to quality circles: quality circles as an example of the quality of working life movement, quality circles as organisational change, and finally, quality circles as direct participation.

The subject of middle management attitude to quality circles had emerged from the literature review and from the first and second phases of the research as one which warranted special consideration. In understanding the processes involved in

introducing and operating quality circles, it is identified as a key factor.

1.3 Aims and Objectives of the Research

The aims of the research were as follows:

(i) To investigate the introduction and operation of quality circles in five organisations in the central belt of Scotland, and identify the major factors which contributed to their success or failure.

(ii) The investigate in detail the role of management in quality circles, both those involved as facilitators and those who remained disinterested observers or dissenters.

(iii) To relate these findings to previous research carried out in both the UK and USA and in Japan on quality circles.

(iv) To develop three complementary analyses, each viewing quality circles from a different perspective in an effort to identify and understand the processual issues in quality circle institutionalisation.

(v) To evaluate quality circles as a form of direct participation.

(vi) To examine the implications of quality circles in non-union firms, in the context of a changing climate of industrial relations.

1.4 Overview of the Thesis

Chapter Two provides an introduction to the concept of participation and outlines a framework for participation. There is also a short historical account of participation in the UK and of the Quality of Working Life Movement.

Chapter Three outlines the structural and human factors in Walker's framework for participation. Chapter Four describes the background to quality circles, their origins and diffusion. Using Walker's framework, Chapter Five reviews the extensive literature from both the USA and the UK on quality circles.

Research methodology is dealt with in Chapter Six, where the methods used in this research and the research process itself are described in detail.

Chapter Seven contains the five case histories. The main case, Ethicon, is dealt with in greater detail than the other four complementary cases, which are presented to allow contrasts and comparisons to be made. In Chapter Eight, the data are analysed from three perspectives highlighting the major factors contributing to success or failure of the quality circles, and the role played by middle management. The results are compared to recent research, using Walker's model as a framework.

In Chapter Nine, the conclusions which follow from the study of quality circles are examined in the context of power and participation, and the implications for industrial relations are outlined.

Finally, Chapter Ten provides a summary of the research, an evaluation of the methodology, and recommendations for further research.

CHAPTER 2

2.1 Introduction

From the early 1970's to the present, there have been growing demands by people for opportunities to influence the organisations in which they work. These can be seen as a response to a range of factors, social, economic, technical and political. Increasingly, members of a more highly educated workforce are exercising their right to participate in decision-making in their working and non-working lives. Broad and Beishon (1977) consider that it is acknowledged that "people affected by decisions have the right to be consulted about those decisions" (p.9) and that improved education creates an awareness of those rights as well as a more questioning approach. Guest (1979, p.7) states the argument that rising expectations of a more highly educated and articulate workforce will cause them to reject authoritarian management, arbitrary treatment, boring jobs and stressful working conditions over which they have no influence. Workers therefore are demanding some say in a range of decisions which affect them, at all levels in the organisation, from routine decisions to those on strategic matters. Surveys suggest that many workers would welcome more control of factors which directly affect their jobs, although this may not be a top priority (O.R.C./The Times, 1975).

In the UK as in other European countries, there has been concern for issues of democracy, parliamentary as well as industrial. In this way, Guest (1979, p.8) says, industry is

sometimes described as the last bastion of undemocratic behaviour in British society.

To these factors Guest (1979, pp.5-9) adds four more. First, the continuing economic and industrial decline in the UK between 1968 and 1978, to which poor industrial relations contributed, and for which participation has been seen as a possible solution. Secondly, the influence of membership of the EEC has raised interest in industrial relations policies and practices in EEC countries and in the implementation of policies promoting industrial democracy throughout the Community. Thirdly, particularly in the 1970's, there has been a change in attitude among senior Trade Union members towards a more positive view of participation at company level. Finally, there is concern about the concentration of power in the hands of fewer, more remote senior managers whose priorities are not social consideration but profit, growth and return on capital.

2.2 Defining Terms

As one might expect, there is no universally agreed definition of worker participation, although as a starting point that of Farnham and Pimlott (1983) will be used:

> "By the term worker participation in management, we mean any set of social or institutional devices by which subordinate employees, either individually or collectively, become involved in one or more aspects of organisational decision making within the enterprises in which they work" (p.421).

The difficulties associated with worker participation arise since many advocates do not specify what they mean by participation. Walker (1970) sees participation as concerned with "the extent to which workers, while remaining in workers' positions, may take part (directly or through representatives) in certain functions defined as 'managerial'" (pp.435, 436), that is, in the organising, planning and controlling as well as the operative functions - the doing. In this model, workers can exert power and participate in the work situation only if "they can exert influence on the levels of the enterprise hierarchy where authority and managerial functions are supposed to reside (ascending participation), or if they are enabled to discharge managerial functions in their own work situation (descending participation)" (p.436). Walker's concept of ascending participation can be compared to Guest and Fatchett's (1974) view that worker participation "involves any personal or institutional process by which subordinate employees exert a countervailing and upward pressure on ultimate managerial control within organisations" (p.21).

The term "worker participation", then, covers a wide range of initiatives and schemes which offer varying opportunities for those at the lower level of the organisation to become involved in matters which are normally the concern of senior management. Walker (1970) considers that the advocacy or introduction of worker participation occurs because "the idea appeals to various groups and interests for whom it appears to serve ideological as well as practical objectives"(p.434). For

Poole(1975), the principal ideological stimulus for introducing a programme of change is the overriding concern for industrial efficiency which participation can facilitate, as "it enables the skills and abilities of workers to be effectively tapped, it reduces workers' resistance to technological change, it spurs management to increased efficiency, it raises the level of workers' satisfaction and thereby makes for a more contented workforce, and finally it is viewed as an important means of improving industrial relations" (p.56).

2.3 A Framework for Participation

Many writers have attempted to provide a framework for participation which takes in a range of factors: objectives, form, content, level - the why, how, what and where of participation.

(i) Objectives

In examining the above definition of participation, ideological issues naturally arise; indeed Broad and Beishon (1977) point out that "a simple preference for the term 'industrial democracy' or 'worker participation' can be a statement of ideological position" (p.9). Farnham and Pimlott (1983), in reviewing proposals for participation, contrast the terms worker participation, workers' control and industrial democracy:

> "Employee participation, for example, is a predominantly managerial perspective of participation. By way of contrast, workers' control and industrial democracy are the variants of participation proposed by those trade unionists advocating the replacement of the present industrial order, and by those seeking greater job control within the existing pattern of industrial relations respectively" (p.428).

To some extent, these differences in terminology reflect fundamental differences in ideology or frame of reference. Alan Fox in his research paper to the Donovan Commission (1966, pp.3-4) contrasted the unitary and pluralist perspectives with their essential ingredients. The unitary perspective recognises a single source of authority in the organisation with the entire workforce striving for a common goal. Each member of the organisation works to the best of his ability, accepts his place and is loyal to the leader who, in turn, must inspire the loyalty he demands. This traditionalist view rejects arguments in favour of democratisation of industry and suggests that power should remain in the hands of capable leaders.

The pluralist perspective covers a range of a standpoints. In general, the organisation is seen to contain many related but separate interest groups whose demands for a share of scarce resources must be balanced by the leadership. Within this reformist school, there are the pragmatic pluralists, who perceive participation as a means of repelling demands for complete control and the liberal pluralists, who recognise participation as a necessary development in a mixed economy. Workers' representation, collective bargaining and joint consultation are all means of providing workers with an increased 'sense' of involvement in the organisation and of improving efficiency and industrial relations.

We can add a third perspective to these - the radical perspective which derives mainly from a Marxist analysis of industrial society. The alienation experienced by industrial workers in capitalist employment relations can be resolved only by fundamental changes in the pattern of ownership and control, either gradually or by revolution. Workers can become involved in co-operatives and new forms of public ownership or, at the workplace, through extended bargaining power rights.

(ii) Form

A participation scheme is generally either integrative or distributive in purpose, that is, the aim is either to develop commitment of employees to the goals of the organisation for which they work or to protect the collective interests of the workers and apply a countervailing power against management. To a great extent, the form of participation will be determined by its purpose. Most authors agree that there is a distinction between direct participation, where the individual worker participates using the control available to him in his job and indirect participation, where the participation is through a representative acting on behalf of his fellow workers, The categories of Lammers (1967) represent the analytic distinctions:

> "indirect participation usually implies that the subordinate participants speak for their constituents with top management about the general policy of the organisation, procedures are formalised, and outside agencies often do influence to some extent what goes on. Direct participation,

> on the other hand, customarily entails that the subordinate participants speak for themselves about work or matters related to work; in general, aims, rules and means are not codified and external influences are normally absent" (p.210).

Direct participation, also known as task-based, involves the worker either individually or as a member of a work group contributing to and influencing managerial decision-making or himself executing some functions previously carried out by management.

Guest (1979, p.24) classifies direct participation into two sub-groups: first, those dealing with communication which are predominantly downwards (briefing groups) or predominantly upwards (attitude surveys) and secondly, those dealing with job design, either to the individual job (job enrichment) or a set of interrelated jobs (autonomous work groups).

Initiatives of the direct form are, Marchington claims (1982, p.154), more popular with management, including foremen, than indirect forms and are generally management initiated. According to Charlton (1983),

> "direct participation can be viewed as an organisational mechanism evolved in an attempt to change styles of management within organisations without radically altering formal relationships between management and workforce. Direct participation tends to be dependent on management initiative and arises in most cases as a response to management problems. Its justification therefore tends to be couched in organisational rather than wider societal or ideological terms" (p.64).

Guest (1979, p.25) points out that surveys of workers' attitudes to participation show that workers are most interested in issues which affect them directly at work and these are more readily dealt with through direct participation. Poole's (1975, p.47) classification of management initiated, direct forms of participation is comprehensive:

1. Piecemeal attempts by management to raise production and efficiency while reducing conflict and increasing workers' satisfaction on the basis of workgroup satisfaction, 'total participation' exercises, quality circles
2. Disclosure of information
3. Job rotation, job enlargement and job enrichment
4. Suggestion schemes, employee shareholding and other profit-sharing schemes, co-partnerships and commonwealth ventures.

By contrast, indirect forms of participation are power based and cover all methods of participation in which representatives of the workforce take part in the decision-making process with their counterparts from middle and senior management. In some instances, the workers' representative will be a trade union member whose sphere of participation may extend beyond the workplace to company, industry, national or international levels. Within the organisation, the principal forms of indirect participation are collective bargaining, joint consultative committees, specific committees (for example health and safety, job evaluation), representation on boards of directors (worker directors), and works

councils. Indirect participation at board level was given considerable impetus in 1977 by the report of the Committee on Industrial Democracy, the Bullock Committee (Department of Trade, 1977), which recommended a system of employee representation on company boards and continual improvement of collective bargaining arrangements in industry. To some extent, the interest in representative participation at that time, also demonstrated in the publication of the Labour government's White Paper on industrial democracy in 1978, was a response to the prevailing political and social climate. Since 1980 there have been no positive steps at government level to extend industrial democracy.

(iii) Content

Questions of aims and forms of participation are inseparable from issues of content or subject matter. Critics of direct participation consider that it is inadequate since by definition only task-related matters can be dealt with, which excludes workers from decision-making at strategic levels. Farnham and Pimlott (1983, p.425) argue that most attempts at direct participation have had a limited effect on organisational performance and only rarely have programmes of job redesign brought about structural changes at the workplace. Their view of direct participation is that it is "more akin to what has been described as 'pseudo participation', since in most instances no participation in real decision-making takes

place through it", an opinion echoed by Pateman (1970, p.68) and Marchington (1982, p.57). To a large extent, the essentially integrative purpose of direct participation may be responsible for its limited impact on organisational change. On the other hand, power based forms of participation, which are essentially distributive in intent, deal with issues of policy, pay and conditions and allow the workers' representatives a say in organisational decision-making (although fewer workers will be involved in the participation process) (Sell, 1986, p.37).

Globerson (1970, p.258) suggests a hierarchy of topics ranging from low level items which directly concern employees, to those which are generally considered management prerogatives. His categories run from wages and fringe benefits at the lower end to 'all' subjects at the higher end with safety and hygiene, industrial welfare and plant operation as the intermediate groups.

(iv) Level

Finally, we must consider the level at which participation takes place; within the organisation workers may be involved both directly and indirectly in decision-making. Representatives of the workers are sometimes involved at industry or national level in negotiating agreements which affect the workers for whom they speak. Broad and Beishon (1977, p.20) link level of

participation to the significance of the issues and to organisational policies such as decentralisation and autonomy of subsidiaries. They claim that many decisions which affect workers immediately at the workplace are taken "across organisational boundaries as in the case of industry-wide bodies where there may be government involvement, or across national boundaries as in the case of multi-national companies". Time span, the length of time between taking and implementing a decision is, for them, closely related to level; immediate decisions related to task level operations are at one extreme and those involving questions of policy and strategy, for example, investment or marketing, are at the other extreme. It can be argued that participation should be limited to task level decisions since most workers are concerned only with issues which affect them immediately and directly while those at the top of the organisation, directors and senior managers, are responsible also for the longer-term survival and operation of the organisation.

2.4 Historical Overview

The current interest in participation and industrial democracy as described above can be seen as a new wave of interest in the concepts. Ramsay (1977, p.391) considers that management has been attracted to participation at times when they have experienced a challenge to their authority from below. This produces a cyclical pattern where participation schemes take a

form which accords with management's view of what they should entail (that is, essentially integrative) allowing management to restore their authority and enlist the workers' support in a drive for greater efficiency and production.

According to Ramsay (1977, p.485) the concerns of participation schemes in the late nineteenth century, the first wave of interest, should not be seen as mainly philanthropic but more as a means of combatting labour organisation, improving productivity and overcoming resistance to change. The early schemes were concerned with profit-sharing in the coal and gas industries. The Yorkshire colliery of Henry Briggs, Son and Company pioneered profit-sharing in the half century preceding the First World War which served as a model for many other schemes. Shares were offered to the public and preference was given to the "officers, workmen and customers of the firm" (Broad and Beishon, 1977, p.10). In some instances it seems certain that "the share was offered as an inducement not to join unions, since quite a number of the schemes were started in non-union firms" (Marchington, 1982, p.150). Briggs' scheme was dropped when it failed to resolve industrial conflict and prevent the colliers from joining the strike against a cut in wages. More profit-sharing schemes were started up in the periods 1889-92, 1908-9, 1912-14 but their failure rate was consistently over 50 per cent. In some instances, employee directors were introduced alongside profit-sharing. Ramsay (1977, p.485) considers these examples of participation as unitary in ideology giving only the feeling of involvement

while allowing management to promote their own interests. According to Broad and Beishon (1977, p.11) few employers showed any enthusiasm for the schemes and the rewards were too small and too remote from employees.

In the period before 1914, the trade unions were beginning to establish themselves and the emergence of a contractual relationship between employer and employee allowed the latter some control over the task. The trade unions gradually grew in power until they provided some counterbalance to employers through collective bargaining procedures, although management still reserved the right to make and enforce decisions regarding work practices and conditions of work. A move by trade union leaders in 1915 to assist the war effort by relaxing working practices which restricted output was disapproved of by shopfloor workers who had not been consulted. This developed into a move by employees to institute participative practices - syndicalism and Guild Socialism. According to Broad and Beishon (1977) syndicalism "sought to bring about a major change in the structure of industry: the trade unions would run industry after taking it over through the general strike" (p.12). Guild Socialism was an attempt to establish guilds through existing trade union structures with workshops being run on a democratic basis. Managers and foremen would be elected by the workforce.

However, neither of these schemes was to last more than two years even though building workers in Manchester and London

established the National Building Guild. The reasons for the collapse were the lack of expertise by the workers, opposition from employers and a slump in the building trade.

Nevertheless, a second wave of interest arose with a growing recognition of shop-floor organisation in the immediate post World War 1 period. The rapid growth in trade union membership coupled with the demands for some degree of control by workers and criticisms of capitalism caused concern to employers. In 1916 the Whitley Committee was set up "to make and consider suggestions for securing a permanent improvement in the relations between employers and workmen". On the committee's recommendations Whitley Councils were established which operated at three levels - national, district and workplace. At national level, the Joint Industrial Councils (JIC's) would deal with wages, conditions, employment and the means of enhancing labour-management co-operation. Over the period 1917-1929, eighty-three JIC's were established. It has been estimated that by 1932 only fifty-three remained, most of which were in small scale private industry. Relatively few industries had formed the triple-level linked structures of national, district and workshop organisation recommended by Whitley. Nevertheless, a number of industries still retain bodies with Whitley type constitutions. Ramsay (1977) considers that "in the Whitley Councils movement, participation was in practice offered by employers under stress and withdrawn when it ceased to meet their requirements in terms of incorporation or of the need to be seen to offer something to

moderate labour demands" (p.488). Other commentators agree: "Even before 1920 it was becoming obvious that some employers had only dealt with the idea of shared control as a device to buy time" (Child, 1969, p.48).

The later part of the 1930's saw the beginnings of the third wave, with a revival in trade unionism in industries involved in military preparations where employment had picked up after the depression. The hostility of trade unionists who had gained little from co-operation with management was again partly forgotten in moves to support the war effort. This resulted in Joint Production Committees which were set up voluntarily to reduce conflict and stimulate production. They received backing from both the TUC and the government. By July 1943 there were 4,169 JPC's in operation covering over 2.5 million workers by June 1944, there were 4,565 JPC's. The JPC's dealt with efficiency and production, not with matters covered by negotiation. However, over the next five years, they began to decline. An attempted revival in the late 1940's failed to restore the movement in any significant way. Over the next twenty years the number of companies with joint consultation fell, so that by 1968 fewer than one-third retained a formally constituted body. The decline was caused by a number of factors: the limited range of issues allowed for discussion, worker disillusionment with the way the JPC's had been used mainly to bolster management power (Ramsay, 1977, p.490) and the growth of workplace bargaining (Broad and Beishon, 1977, p.13).

The nationalisation acts in the post-war period added further impetus to participation but more importantly attitudes of managers and employers also began to change. The 'human relations' school began to replace Taylorist thinking and, with its unitary frame of reference, greatly appealed to management.

These changes bring us to the present where we can locate the beginning of the fourth wave of interest in the late 1960s. Both direct and indirect forms of participation have grown considerably in the last fifteen years. Surveys by the Department of Employment and Warwick University indicate that joint consultation is on the increase and is thought to exist in a majority of organisations (Marchington, 1982, p.152). While indirect participation by workers was being advocated by the Bullock Committee and others, there were also significant developments in the direct involvement of workers in decisions relating to their work.

2.5 The Quality of Working Life Movement

The 1970s were a time of renewed interest in participation in Western Europe. In Norway, there were experiments to democratize the workplace while in Sweden, there was a national commitment to enhance the quality of working life (QWL) through industrial democracy. In Britain, The Tavistock Institute played a major pioneering role, acting as a focal point for research into participation at the workplace. From the socio-technical approach developed at the Tavistock Institute by Eric Trist and Fred Emery, a number of approaches have emerged, such

as semi-autonomous work groups and group working. In conjunction with the emphasis on democracy at work and on worker participation, these approaches have found expression in a number of schemes such as those at Volvo and Saab-Scania in Sweden. They also have a close affinity with attempts to change the content of jobs to make them more challenging and satisfying to the individual worker, such as job enrichment, job redesign, which were themselves the practical application of the theoretical models of motivation and job satisfaction of psychologists such as Douglas McGregor, Abraham Maslow and Frederick Herzberg.

While many of these concepts and initiatives had been developed in the 1950s and 1960s, it was not until the early 1970s that they began to have an impact on management thinking and practice, particularly in the USA. Indeed, some argue that Britain missed out:

> "Is it possible that - as has happened in other fields - British initiatives failed to achieve success at home, and in this case via Scandanavia and Japan, had to be reintroduced after an interval of 35 years?" (Heller, 1988, p.15).

Cowling et al (1988, p.185) see this failure by the British to exploit socio-technical systems ideas as "true to form". They argue that many of the programmes and developments which the Scandinavians and Germans undertook have been successful and contributed significantly to wealth creation and greater job satisfaction. Heller (1988) quotes from a speech by the Norwegian Prime Minister, Gro Harlem Bruntland, who attributed

the dramatic increase in employee involvement, ability to handle demanding tasks and productivity to plant level changes in job design, work organisation and production technology in Norway.

For Ronchi (1981, p.5), QWL falls somewhere between the traditional field of organisational behaviour, with its emphasis on social-psychological constructs, and the field of industrial relations, which draws on economic constructs. While it draws on both, it belongs to neither. Parker (1985, pp.3-7) puts forward a far more critical view of QWL, seeing it as an anti-union and exploitative device used by management to get more out of workers. He identifies four strands which gave rise to QWL; first, a growing interest by management in the human relations approach; second, recognition by union leaders that democracy could be extended to the shop-floor; third, information from Japan about programmes like quality circles which had contributed to improved quality without affecting existing power structures and, finally, the suggestion that these approaches could be used by management to avoid or resist union recognition.

These strands, Parker argues, had little overlap and were confined in their support to fairly narrow areas until the economic crisis of the late 1970s. Then, increased competition caused large corporations to reassess their management policies. At the same time, rising unemployment changed the mood for unions and workers. As well as looking for

improvements in job satisfaction, management could openly state that productivity and competitiveness were central aims to QWL. However, says Parker, the companies who adopted QWL in the USA did not even pay lip-service to the idea that through QWL, power would be shared: "workers were allowed to 'participate' to the extent that they could give information or ideas, but participation did not extend to making the serious decisions" (p.7). Taking a different view from Parker, Buchanan and Huczynski (1985) argue that the economic recession of the 1970's diverted attention away from issues relating to QWL because pressing problems of inflation and unemployment had to be tackled: "the quality of working life is less important when there is little work to be had" (p.69).

While the precise definition of QWL varies, according to Ronchi (1981, p.3) most programmes emphasise what Goodman (1979) refers to as "the dual focus on improving both productivity and quality of work life dimensions", bringing the interests of management and workers into a common arena. The rhetoric of QWL is an attempt to persuade people that differences between workers and management are illusory and that instead their interests overlap; QWL provides a way of assuring both sides that their causes can be aligned and that both sides can exploit the opportunities brought about by QWL for their own ends.

Assessing QWL is difficult. While there are reports of considerable successes in improved work attitudes, increasing

levels of involvement and improved working conditions, the negative outcomes are also apparent, especially resistance from middle management (Hellriegel et al, 1986, p.617). Griffin and Moorhead (1986, pp.671-672) identify three types of benefits - a more positive attitude to work and the organisation, increased productivity and increased effectiveness. They also identify those issues that need to be addressed - management and workers must co-operate in the design of the QWL programme and its implementation, the action plan must be followed to completion by everyone including the sometimes forgotten middle manager, and finally the joint objectives of increasing quality of worklife and organisational efficiency must be emphasised.

Kelly (1980, p.22) looked specifically at job redesign to assess its costs and benefits to both management and workers. He rejects the claim that through job redesign the mutual interests of both parties can be satisfied, pointing out that few studies have investigated the costs to both management and workers. The evidence from the cases he reviews questions the claims that job redesign brings benefits without incurring costs:

> "It does appear that there are several major economic and political costs of job redesign both for workers directly affected, as well as for those in ancillary or adjacent work roles. Indeed, when it is borne in mind that the costs to management would appear to be much less than for workers, the evidence casts considerable doubt on the mutuality of interest satisfaction arising from the redesign of jobs" (Kelly, 1982, p.203).

A major difficulty in assessing the effectiveness of QWL arises because many of the evaluations available were conducted by

those, often consultants, who introduced the programmes in the first place. There is a clear conflict of interest - these consultants are unlikely to publicize failures and will possibly exaggerate successes. Parker's (1985, p.132) summary of research into QWL in the USA concludes that few programmes last longer than three to four years. Early enthusiasm helps the programmes to survive the politics and uncertainty of the first year or two but institutionalisation is rarely achieved. Assigning more facilitators to the programme in an attempt to keep it alive makes evaluation even more difficult. Parker (p.133) challenges the assumption that QWL will work - he argues that the appearance of success early on is misleading, and that instead we should recognise that these QWL programmes have in-built problems which lead to their eventual collapse. Early success is attributable to a number of transitory factors; first, the allocation of resources creates an impression of change and achievement. Secondly, workers are committed to making a contribution, they want respectful treatment and wish to take pride in their work - it is some time before they realize that these promises will not be fulfilled. Third, initial enthusiasm begins to fade when it becomes more difficult to come up with suggestions which do not adversely affect other workers. Finally, says Parker, the Hawthorne effect, that is, the effect that extra attention and interest paid to workers can have on their morale and performance, may be responsible for initial success stories. As none of these factors is lasting, says Parker, programmes rarely survive longer than a year or two. Those that continue

do so either because of the commitment of the union and management, despite loss of interest by the workers, or because groups whose initial enthusiasm is lost are replaced by others.

Having reviewed the available research, Parker (p.139) concludes that it fails to support most of the claims or hypotheses made for QWL. Even where success is claimed the reasoning is circular - the programmes which succeed are those which show increases in worker satisfaction. In looking for programmes which were well conducted, we look at those with increases in satisfaction: "the argument reduces to the tautology that successful programmes are successful programmes" (p.139). Parker also questions the measures of success used, arguing that in many cases, successes for management are losses for the ordinary workers: "the real results of QWL are usually weakened unions, concessions, and a smooth introduction of new technology" (p.139).

Parker's view is strongly pro-union; his basic criticism of QWL training is that it is not merely instruction in problem-solving techniques but is "designed to change the way group members think - about their work, about themselves, about their relationship with the union ... it is designed to get people to act on the idea that 'we and management are in the same boat'" (p.16). His distrust of QWL and quality circles is apparent throughout. Nevertheless, it is one of the very few reviews of QWL and quality circles which takes a more critical view, and at least admits its bias openly.

CHAPTER 3

3.1 Determinants of Participation

There are numerous schemes which can be included under the heading of worker participation, ranging from those indirect schemes in which only a small number of representatives play a part to those where the workers' involvement is direct and integral to the design and execution of the job. In attempting to account for the range of schemes, Walker (1970, p.446) offers a number of determinants or influences which affect the type of participation which develops in an organisation and its outcomes. He divides these into situational factors, which determine the participation potential of an organisation, and human factors, which determine how far and in what way the potential of the situation is translated into reality. The latter he terms "workers' propensity to participate and management's acceptance of workers' participation".

As Loveridge (1980) points out, Walker is working within the tradition of the contingency theorist where "potential for participation arises out of structural conditions which facilitate or impede labour-management interaction, influence and information exchange in conditions of openness and trust, and propensity to participate is defined in terms of the ability (knowledge and skills) of the actors to take part in managerial decision-making and their willingness to do so" (p.298). The contingency perspective is related to a "logic of efficiency" (Marchington and Loveridge, 1983, p.73) in that for any participation scheme to be acceptable to management it must

lead to increased efficiency and, as Marchington and Loveridge indicate, it is management who initiate most participation schemes.

Walker's model is relatively straightforward and clear but, Loveridge (1980) considers, may oversimplify the complexity of the interaction between structure and belief, potential and propensity:

> "the willingness and ability of the actors to participate cannot be easily separated from the structure or 'potential' of the situation in which these feelings are shaped. In fact, it is a primary purpose of the current Aston studies of participation to demonstrate the extent to which differences in employee orientation may or may not themselves serve to shape emerging structures for participation rather than to be the objectives of the exercise" (p.447).

3.1.1 Participation Potential

The participation potential, according to Walker (1970, p.447), is determined by a number of factors, principal among which are autonomy of the enterprise, technical factors, size and structure of the enterprise. Guest (1979, p.34) suggests that the nature of the product, social and cultural factors also should be considered.

(i) Autonomy

Walker defines autonomy in terms of the range of managerial decisions which are taken above enterprise level. If many decisions are taken outside, this limits the potential for workers' involvement in such decisions. Loveridge (1980, p.302) points out that in assessing the autonomy of an enterprise it is essential to be aware of

the external constraints which might inhibit change in the organisation. He deals at some length with the constraints found in union sovereignty within collective bargaining. Even so, the existence of a positive response from the leadership of the union will not necessarily ensure that regional and branch representatives will follow suit.

(ii) Technology

Second, the effects of technology or technical factors which, Walker points out, are far from clear. He considers that while simpler technologies appear to offer greater opportunities for participation, in some circumstances complex technologies may do so, and even demand a greater degree of participation for effective operation. The mass production technical system typified by car assembly is specifically mentioned by Guest (1979, p.33) as a significant constraint on the development of shop-floor participation. However, he does caution against technological determinism.

While agreeing with this, Loveridge (1980) claims that nonetheless, it is clear that "the design of certain forms of plant and machinery sets limits to the range of associated tasks, and to the knowledge, skills and other inputs that go into them" (p.303). Equally, the technical system will affect the social system, the extent to which people work in groups or separately.

Loveridge cites Sayles' (1958) study of shopfloor groups where workers' contribution to and location in the workflow enabled them to express their needs on a group basis. Other workers, whose jobs are relatively independent, for example, lorry drivers, farm workers and commercial travellers, must adopt different group strategies as they have limited opportunities to operate or participate as a group.

In terms of the technological environment and the production system, Marchington and Loveridge (1983, pp.78-80) identify three potential sources which influence decision making and thus participation: first, the stability of the technical market, the regularity with which new machinery is introduced and the amount of forward planning possible in its choice; secondly, the degree of interdependence within the production system, the extent to which operations depend on each other or problems in one section transfer to another; thirdly, the degree of scientific complexity of the process, the extent to which scientifically qualified technical and managerial staff are required whose time for participation might be limited.

(iii) Size

Walker's third determinant of participation potential relates to the size of the enterprise, which he states will influence both the form and extent of participation.

In large enterprises, only indirect participation may be possible. Also, legislation requiring participation often applies only to organisations above a certain size. Guest (1979, p.32) also cites size as an obvious influence on the type of participation adopted as it affects both practicality and potential outcome. Agreeing with Walker, Guest considers that large organisations who may benefit more from participation often have to resort to methods of indirect participation through representatives while at the same time feeling the need to provide direct participation to regain some of the advantages of the small organisation. Large organisations also run the danger of finding that their attempts to impose participation across several units only succeed in setting up a bureaucratic and over-rigid system where there is little contact between the workforce and their representatives.

(iv) Structure

The fourth determinant of participation potential, according to Walker, is the structure of the enterprise which depends on the other three factors, autonomy, technology and size. Nevertheless, while organisational structure will permit certain forms of participation, it does not necessarily restrict workers to participation provided for by these structures. Loveridge (1980, p.303) relates this to Burns and Stalker's (1961) classification of 'organic' and 'mechanistic'

organisations where organic structures indicate a high level of mutual independence between workers and management and thus greater opportunities for participation.

The instability or uncertainty of the environment in which an organisation operates is considered by Clegg and Wall (1984, p.435) to influence the organisation, in terms of structure and operation. Organisations which exist in stable markets operate with simple structures and straightforward rules, programmes and procedures. However, these 'mechanistic' organisations offer limited scope for participation since discretion and decision-making tend to be removed from people and choices are pre-determined and regulated by bureaucratic rules and procedures (Clegg and Wall, 1984, p.438). In contrast, more scope for participation exists in 'organic' organisations where there is a heavy information-processing load with decisions being taken at all levels. However, these higher levels of uncertainty "are accompanied by specialization and differentiation which together are manifest in structural, political, psychological and behavioural barriers between groups in the enterprise" (Clegg and Wall, 1984, p.438). Clegg and Wall contend that, in practice, these lateral divisions constrain employee participation in any form other than that limited to a single function. In other words:

> "the very circumstances which promote a need and opportunity for employee participation, at the same

> time encourage the organisation to structure itself and function in a way which severely constrains the effectiveness of this way of making decisions" (p.438).

For Clegg and Wall (1984), "any serious attempt to promote participation ... may well involve organisational restructuring, particularly with regard to lateral relationships" (p.440), since where the conditions conducive to employee participation exist, they are, paradoxically, impediments to the process.

(v) Nature of the Product and Product Market

Other authors provide additional environmental determinants to the four offered by Walker. Guest (1979, p.34) suggests the nature of the product and the product market and relates this to 'organic 'and 'mechanistic' organisations, with the former more appropriate for unstable, volatile markets and the latter for stable markets. As far as forms of participation are concerned, market conditions may thus restrict the type of participative system which can be introduced and operated successfully. A similar point is made by Marchington and Loveridge (1983, p.74) who analyse the effect of the market on decision-making in terms of three related but distinct factors: the degree of competitiveness of the market, the stability of the market and the orientation of the market, each of which can vary along a continuum from certainty to indeterminancy. Marchington and Loveridge (1983) suggest that "if firms have to respond

quickly to changes, employee participation is more difficult to put into practice. In contrast, firms operating in more stable environments may be able to devise systems to guarantee a fuller exposure of impending problems" (p.74).

(vi) Social and Cultural Factors

Finally, under participation potential, Guest (1979, p.34) identifies two further sets of organisational factors, social and cultural. Social factors include the goals and values of interest groups both internal, such as senior managers, middle and junior managers, trade unions, shareholders, and external, such as customers, government and its agencies. These interest groups will have different sources of power which may influence the success of participation. Cultural factors may in turn influence what is feasible. Traditions of conflict or paternalism cannot be readily changed. The organisation will have a certain history associated with it. The organisational and industrial relations climate will affect the amount of trust and openness which exists and may thus affect the outcome of any participation scheme.

3.1.2 Propensity to Participate

(i) Workers' Propensity to Participate

Walker's second set of determinants, the human factors, concerns both workers and management. Workers' propensity to participate depends on three factors: attitude, capacities and perceived power.

(a) Attitude

The first of these has long been a topic of research in its own right in a range of organisations, industries and countries. However, because of the imprecision of the terms used and the difficulties associated with interpreting survey data, it is almost impossible to draw any firm conclusions about workers' desire to participate in decision-making.

Strauss (1979, p.387) points out that 'participation' often takes on a symbolic meaning, evoking a broad range of connotations from 'a victory of the working class' to 'a form of union busting'. Even where there is agreement between the parties on the form of participation, there are often substantial disagreements on the expectations of what changes will occur and the effects they are likely to have.

According to Broad and Beishon (1977, p.17), much of the pressure for increased participation comes not from the workers themselves but from an ideological conviction that people should have the right to participate in matters which affect them. However, where the opportunities to participate do exist, as in common ownership companies and co-operatives, it has been found that a third of

the workforce will be actively involved in decision-making, a third will take an interest when an issue affects them directly and the remainder will play no active part. Holter (1965) in her study in Norway of seventeen companies in the Oslo area found a widespread desire for more information about the management and plans for the firm and a general uncommitted but quite extensive belief that there ought to be more industrial democracy. When asked if employees in general were sufficiently involved in decision-making regarding the company as a whole, 78 per cent said no. However, asked if they personally would wish to participate more in either or both of "own work and working conditions" and "company matters in general", 56 per cent chose the first only, 16 per cent opted for both or the second, while 22 per cent expressed no interest in personal participation. From the ORC/The Times (1977) survey mentioned earlier it was concluded similarly that "there is an interest in participation on the job rather than at a more general level, even though the latter will usually involve the more important decisions for the company". Hespe and Little (1971, p.340) conclude that this interest in local rather than general participation is quite usual.

Ramsay's own survey (1976, p.137) of workers' views of participation draws similar conclusions:

(1) as far as individual employees are concerned, the area of most interest is their own jobs,
(2) a negotiation procedure is the most effective means of providing involvement; collective bargaining does not have much support,
(3) participation is not a great attraction in comparison to other rewards and is not seen as something management could offer as a substitute for wages,
(4) there is, nonetheless, considerable demand by shopfloor workers for involvement in decisions which directly affect them.

Wall and Lischeron's (1977) review of the available research on the desire for participation concludes that there is a greater interest in immediate than distant matters but it also indicates contradictory findings between samples. It is also worth noting that there is a sizeable minority in almost all surveys who wish to be involved in decision making.

Attitudes to participation appear to be closely related to opinions and beliefs held on wider social issues, particularly orientation to work. Research in the 1960's by Goldthorpe and his

colleagues (1968) suggested that assembly line workers in the Luton studies had an 'instrumental' orientation to work. They were reconciled to the mundane nature of their jobs and regarded them mainly as a means of providing a satisfying life-style outside work, enabling them to purchase goods and services which they found of personal value. Where an attachment to work of this type exists, it has been found that there is little support for participation (Hulin & Blood, 1968). However, Loveridge (1980, p.300), suggests that the average shopfloor or office worker probably regards the sharing of authority and responsibility for managing their place of work as a less realistic expectation than the securing of higher wages, and an ambivalent attitudes to an offer of increased participation reflects this. Strauss (1979, p.388) in summarising the research findings detects a widespread, though perhaps diffuse, desire for greater participation, principally at shop-floor level with job-related problems. The evidence suggests also that many workers would rather not have the responsibility for taking decisions. Finally, the desire for participation as a primary goal is affected by the social and ideological context in which the participation is presented.

Most of the evidence for the desire to participate on behalf of workers quoted so far relies on the use of questionnaires or interviews as research instruments. As Loveridge (1980) points out, these "provide little guide to the subsequent choice of action by the shopfloor or their response over time to management initiatives" (p.300). The use of questionnaires has come under considerable scrutiny recently. Marchington (1980) considers that "the 'fact' that most shopfloor surveys show a relatively low propensity to participate on the part of employees could be due just as much to the method of investigation as to the attitudes of the employees themselves" (p.33). Fatchett (1978) makes a similar point:

> "it is the use of the attitude survey which is stripping participation of its real meaning ... to ask questions about the level of participation in these areas of decisions which have traditionally been beyond the scope of the worker may be as relevant as asking about the colour of the Rolls-Royce which he is going to buy with his next wage packet" (p.53).

Ramsay (1976, p.130) also stresses the "vulnerability of the methodology" especially as in recent research "the process has been intensified by the use of pseudo-scientific presentation devices which give a false impression of solidity to the data" (Ramsay, 1976, p.130). The format of the questions may also be significant - as

Loveridge says (1980), "the inconsequential act of ticking a five-point scale is some way from the demonstrated and active involvement claimed for participants in truly democratic systems of management" (p.301). The context in which questions are asked is also important. Daniel (1973) showed that job enrichment was resisted in a collective bargaining context by the same workers who reacted favourably to it in a different context nine months later. Nevertheless, as with all instances relating attitude to behaviour, it does seem prudent not to accept answers to essentially hypothetical survey questions at their face value. Loveridge (1980, p.301) suggests that supplementing questionnaire results with observational data would allow greater insights into the full meaning of respondents' answers.

(b) Capacity

The capacity of workers to participate in decision-making is also a matter for debate. Walker (1970, p.448) relates capacity to the workers' abilities and the extent to which these abilities have been developed by education. If the participation is indirect, the capacity of the representatives is the critical factor. It has been claimed by opponents of participation, according to Broad and Beishon (1977), that "workers are not capable of

participating in certain levels of decision-making in organisations, either because they lack the intellectual ability or because they lack the technical knowledge and skills to understand, for example, accounting procedures or business practices" (p.19). However, the evidence from existing schemes does not support these claims. On the contrary, worker representatives, according to Broad and Beishon (1977, p.19), are generally capable of developing expertise and skills which equal or surpass those of their management counterparts. The capacity to participate will develop as involvement increases, just as the desire for participation grows with opportunity (Hespe and Little, 1971, p.343).

Capacity to participate will depend on a range of factors but expertise which enables representatives to participate effectively may develop with experience. The British Steel worker directors acting as representatives found that they had to learn the norms of boardroom or council behaviour; Brannen et al (1976, pp.176-177) observed that they needed to be socialised into the dominant norms of the boardroom. In most instances of participation, workers or their representatives report anxieties about their performance in negotiations with management. There are, of course, established

training schemes for worker representatives, particularly shop stewards, which help develop the technical expertise required to allow them to participate fully in joint union-management ventures (Schuller and Henderson, 1980, pp.53-55).

Psychologists have examined the relationship of a range of variables such as age, sex, occupation, personality, previous employment history and mobility to the capacity to participate. Broad and Beishon (1977, p.20) expect that workers from rural areas would be satisfied with less involvement than workers from urban areas because of the former's "greater deference to authority". Length of employment may also affect positively the commitment to participation. In terms of personality characteristics, Vroom (1960) found a positive relationship between high need for independence on the one hand and favourable work attitudes and increased production on the other; also that egalitarians would operate more favourably than authoritarians in a participative climate. Evidence collated by Guest and Fatchett (1974) suggests that those who prefer strong leadership, lack self-confidence, or feel unable to influence their lives, are less likely to participate at any level. Women and the less well educated also show less interest in participation.

The research data on age and its relation to participation propensity is inconclusive (see Hespe and Little, 1971, p.343), though there is a suggestion that younger workers are more likely to seek involvement in participation than older workers. However, it may be prudent to treat much of the research data in this area with the same caution as that relating to desire to participate.

(c) Power

On the third factor, power, Walker is somewhat unclear. He considers that it is the workers' perception of their relative power which is important rather than the actual balance of power (1970, p.348).

Despite the amount of attention power as a concept has received in recent times, there is no precise definition of the term, nor any clear distinctions between it and other terms such as control, authority and so on. The difficulty of definitions comes partly, suggest Fincham and Rhodes (1988, p.297) because the activity being described is complex and dynamic. Most organisation theorists accept the definition put forward by Dahl (1957, p.202) which describes power as the ability to get another person to do something which he or she otherwise would not have done, that is, "the

ability of those to bring about the outcomes they desire" (Salancik andd Pfeffer, 1977, p.3). For Dahl and others, at the centre of a power relationship is a conflict of interest between groups or individuals. In organisational terms, power can be exercised by groups acting collectively, or by individuals acting as members of a group.

The sources of power in an organisation, the bases from which power is derived, are identified by French and Raven (1959) as reward power, coercive power, legitimate power, referent power and expert power. Legitmate power is identical with authority and derives from seniority in a hierarchy. Reward and Coercive power describe the actions which people who have other power resources can exert. Expert power is possessed by those who have particular skills and expertise and is usually highly specific. Referent power is drawn from the personal qualities of the holder and is similar to 'charisma'.

Little has been written about the way in which participation is affected by, or affects the power of the workers. Farnham and Pimlott (1983, p.382) consider that for effective bargaining to take place, shop stewards must understand the balance of

power between themselves and management. This balance is usually in the management's favour but can change, for example, to reflect changes in demand or supply in the labour market, changes in the law, rises or falls in unemployment. These factors may not be recognised and thus have little effect on the balance of power, or one side may refrain from using their advantage because of their fears of what might occur if the circumstances change to favour the other side.

However, opportunities for participation are normally granted by management to the workforce within limited confines, (as has been described in earlier schemes) and are usually indirect, involving representatives of the workforce. According to Ramsay (1977, p.496), management willingness to allow participation can be seen as their response to threats to their authority. Schemes which have existed emphasise a consensual, unitary philosophy and in all cases have not had any lasting impact but have degenerated into triviality or become unstable and gradually disappeared. They have brought no lasting change to the balance of power between workers and management.

(ii) Management's Acceptance of Participation

Similarly, the willingness of management to accept participation depends on attitude, capacities and perceived power (Walker, 1970, p.448).

(a) Attitude

Management's attitude to participation is, Walker considers, influenced by managerial philosophies which provide for varying degrees and forms of participation and are in turn affected by ideologies and values. Poole (1975) outlines the assumptions of the so-called 'managerialist' thesis which has emerged in the twentieth century to become the dominant ideology, legitimating managerial dominance on legal-rational grounds. A key argument of this ideology is that managers as "controllers of industry would become largely non-propertied, technically proficient and highly professional" (p.50). However, Poole, drawing on evidence from Nichols (1969), finds little support for this argument. First, many directors do own shares in the companies they work for - "a specified minimum is usually a legal qualification for office" (pp.72-73). Secondly, in terms of technical expertise and proficiency, the evidence does not point to the existence of a highly qualified managerial elite who require a minimum technical or educational qualification for office.

Rather, many managers "pay only lip-service to the possibility of building up a managerial science, preferring instead to rely on far more emotive and 'rule of thumb' methods, and at worst try to discredit such a notion in its entirety" (Poole, 1975, p.52). When modern managers use arguments based on expertise to defend their decision-making authority, Poole maintains, they will be unwilling to encourage participation; indeed he predicts:

> "the more a given manager approximates or considers himself to approximate to the stereotype encapsulated by the managerialist thesis, the more vehement will be his opposition to workers' participation and control" (p.53).

According to Poole (1975) then, "the main managerial ideology of the twentieth century has worked strongly against developments in workers' participation in decision-making" (p.53). The alternative solution preferred has been for management "to develop paternalistic practices for which the 'human relations movement' provided the main rationale and personnel management the most obvious institutional form" (p.54).

Managers still prefer a unitary conception of the organisation which, as Fox (1971) states, as an ideology serves three purposes: "it is at once a method of self-reassurance, an instrument of persuasion and a technique of seeking legitimation

of authority" (p.126). In addition, in the majority of participation schemes initiated by management the scope, level and range of issues is restricted. The preference for consultative rather than participative institutions reflects the "deep mistrust as to the value of participation, particularly in integrative forms ... shown by employers and their spokesmen" (Clark et al, 1972, p.174). Managers have introduced participation programmes only "when the power of the workers has been sufficiently strong, or when they have been obliged to do so as a consequence of government legislation, or when they have internalised certain general ideologies different from the main ones mentioned - chief among these being humanist, religious or an overriding commitment to industrial efficiency" (Poole, 1975, p.56).

It is the latter ideology based on 'the logic of efficiency' which characterises the writings of many proponents of participation as a managerial device. For example, Tannenbaum and Massarik (1969, p.432-3) suggest that a manager who behaves rationally will pursue those alternatives which will maximize results at a given cost - their criterion of rationality. On this basis, "he will find it advantageous to use participation whenever such use will lead to increased results at a given

cost or to the attainment of given results at a lower cost" (p.433).

The advantages of participation as a managerial device are given by Tannenbaum and Massarik (1969, p.434) as: first, a higher rate of output and increased quality; secondly, a reduction in turnover, absenteeism and tardiness; thirdly, a reduction in the number of grievances and more peaceful management-subordinate and manager-union relations; fourthly, a greater readiness to accept change; fifthly, greater ease in the management of subordinates ... reducing the amount of resistance to the exercise of formal authority and increasing the positive responses of subordinates to managerial directives; finally, the improved quality of managerial decisions. These points differ little from those given by Poole (1975) as the advantages claimed for participation by those whose principal concern is industrial efficiency:

> "it enables the skills and abilities of workers to be effectively tapped, it reduces the workers' resistance to technological change, it spurs management to increased efficiency, it raises the level of workers' satisfaction and thereby makes for a more contented workforce, and finally it is viewed as an important means of improving industrial relations" (p.56).

Similarly, Guest (1979, p.10), in examining what management has to gain from participation,

considers that a significant increase in efficiency is a primary, if somewhat controversial, reason for management interest. Nonetheless, he links participation to efficiency on the basis that there is "a considerable resource of untapped potential among the workforce, including management, in most organisations" (Guest, 1979, p.10). To this, Guest adds four other reasons why management takes an interest in participation: it may help to facilitate change particularly if the workers are involved in the planning and implementation of change, it may improve industrial relations, it may lead to increased job satisfaction and well-being, which may reduce labour turnover and lower absenteeism and, finally, it "can help the image of an organisation by indicating a concern for the workforce and a sense of social responsibility" (Guest, 1979, pp.12-14). The points put forward by Knight in the same publication (1979, pp.245-6) are broadly similar.

Charlton (1983, p.76) presents two main reasons why organisations introduce new forms of decision-making practice. The first set of arguments are that participation is seen as a solution to problems of poor quality, high turnover, absenteeism and strikes which Charlton describes as managerial problems. The second set of arguments

she regards as political or humanist in operation, for example, where the management believe that on moral grounds democracy should be extended from the political to the industrial sphere.

Many of the reasons for management support of participation seem to fall into one of Poole's two categories (1975, p.56), emphasising either the benefits in efficiency from participation or the commitment to religious or humanist values. According to Marchington (1980, p.35), such evidence as exists on management attitude to participation shows a favourable response on moral grounds but reservations about the feasibility or usefulness of the process.

Nonetheless, commitment of management to participation appears to be crucial to its success. Both top management and line management must demonstrate their support. Sell (1986, p.35) believes that unless top management demonstrate by their own behaviour that they believe in participation, it is unlikely to be effective. Their commitment must be apparent not just in what they say but also in their actions - that they do not continue to act in authoritarian ways, not listening or not responding to the views of employees. This commitment will determine the

behaviour of the whole organisation. For Marchington (1982, p.157), an essential ingredient in the successful implementation of participation is that the commitment of line management must be apparent to stewards and other observers.

It is somewhat misleading to treat 'management' as a homogeneous group in their attitude to participation. Knight (1979, p.246) considers that middle and first-line managers who are committed to a controlling view of their function, often as a result of the expectations of their superiors, will have to change this view and their behaviour if participation is to achieve the goal of increased effectiveness and improved quality of life. To a large extent, the hostility of middle management and first-line supervisors stems from their realistic fear that "the numbers at intermediary levels ... will be reduced or even eliminated" (Daniel and McIntosh, 1972, p.49). According to Poole (1975) the results of job enrichment programmes suggest that the greater the decision-making power which accrues to shopfloor workers, the less is available for middle managers and first-line supervisors "even though the power of top management remains largely unaffected" (p.66). Hackman (1977) found that in American Quality of Worklife experiments, both middle and first-line

managers lost power to the workgroup. Jenkins (1974) concluded that while supervisors are important for the successful introduction of job restructuring, once implemented it "can lead to a substantial reduction in the numbers of supervisors, managers and specialists" (Chapter 13).

Sell (1986, p.36) believes that problems arise for middle managers who would prefer to opt out of participation but find themselves between both subordinates and superiors who expect more involvement. He suggests that if they are unable or unwilling to move to more participative ways of working despite "exhortation, behavioural training programmes and on-the-job encouragement" (Sell, 1986, p.36), they should be removed from line responsibilities and placed in an off-line support role where their experience can be used but their attitude is less important. Middle and lower managers, Sell considers, are also under greater threat from participative initiatives, often lacking training or adequate communication and involvement with senior management: "to expect them to welcome participation with open arms, with their past history and when they are feeling insecure because of the possible threat to their jobs, is to expect a lot from them" (p.36).

(b) Capacity

The capacities of management which affect their acceptance of participation are, says Walker "those relating to the effective implementation of a managerial philosophy favouring workers' participation" (1970, p.448). However, he considers, a manager who lacks "the attributes of personality which enable him to implement it effectively" or "the knowledge required to do so" (1970, p.449) will be unable to translate his desire for participation into reality. Walker suggests that education and training of managers in the operation of participation may develop such capacities. In this, Marchington (1982, p.157) agrees that the commitment of managers to participation, while essential for success, is insufficient unless managers are given the time they require to be trained in the skills needed in operating a participation scheme. Areas for development might include chairing meetings and presenting information. In an account of an attempt to introduce participation in a local authority, Clegg and Wall (1984) report that in the early stages "managers and supervisors were nervous about running meetings and felt threatened at giving people the opportunity to challenge their decisions" (p.341). With time, however, this early difficulty resolved itself.

(c) Power

The last of the three factors which will influence management's acceptance of participation is perceived relative power. Walker (1970, p.449) believes that where managers are not in favour of participation, they will accept it only if they perceive that the balance of power is against them. If not, they will resist. He concludes (1970) that "perceived relative power is important only if there is a discrepancy between workers' and management's attitudes towards workers' participation in management, when their perception of relative power will determine the form that participation will take at a given level of workers' aspirations to participate" (p.451).

The view which management and workers hold of power depends largely on their ideological position. Burrell and Morgan (1979, p.204) provide a summary of the understanding of power utilised by unitarist, pluralist and radical frameworks: "the unitarist view largely ignores the role of power in organisational life; concepts such as authority, leadership and control tend to be the preferred means of describing the managerial prerogative of guiding the organisation towards the achievement of common interests". In contrast the pluralist regards power "as a variable crucial to the

understanding of the activities of the organisation. The organisation is viewed as a plurality of power holders drawing their power from a plurality of sources" (Burrell and Morgan, 1979, p.204, quoted in Kirkbride, 1985, p.47). In the marxist or radical approach, power is viewed "as an integral, equally distributed, zero-sum phenomenon, associated with a general process of social control. Society in general and organisations in particular are seen as being under the control of ruling interest groups which exercise power through various forms of ideological manipulation as well as the more visible forms of authority relations" (Burrell and Morgan, 1979, p.388).

As pointed out earlier, the hostility of middle and first-line managers to participation stems from their expectation that a scheme which increases involvement of employees in decision-making will reduce their power to manage. This view represents a zero-sum power conception which states that in an organisation there is a finite amount of power to be distributed and any change in distribution favouring workers will inevitably reduce management's share. This view is clearly held by Sell (1986): "asking shopfloor personnel their views, listening to their ideas and then actually taking notice by implementing some of them

represents a change in the power structure of the organisation. This implies that some people's power, particularly that of the managers, is being reduced to enable that of others to be increased" (p.35).

An alternative view of power is the non-zero-sum conception, where power can be understood as a "circulating medium" which can expand as long as there is sufficient trust in the system (Poole et al, 1981, p.17). This view is stated by Walker (1970):

> "a good deal of evidence suggests that the total amount of control over the events in the enterprise is not a fixed amount which can be divided only in a manner which gives additional power to the workers by taking it away from managers. It appears that frequently the effect of workers' participation in management is to increase the total amount of control exercised in the events in the enterprise, so that workers gain some power without any reduction in management's power" (p.453).

Walker considers that the "introduction of participative structures may bring under joint control events which were previously uncontrolled, or under the unilateral control of managers or workers. It may even change the balance of formal responsibility for certain decisions, or perhaps change it in a direction opposite to the change in responsibility" (p.453).

From the literature, there seems to be considerable evidence to support the zero-sum concept of power. For example, Cotgrove et al (1971) found that in the 'total involvement' exercises at ICI in the nylon spinning plant, there were severe consequences for lower and middle level management in terms of decision-making authority; participation "meant a threat to their status and security ... some had left, and others had experienced severe strain in adjusting to the demands of the new style, with its shift in emphasis from authority and directives to participatory leadership" (pp.111-112).

Technical and specialist workers too are often opposed to programmes of increased participation. Poole (1975, p.54) points out that with the increased demand for highly-skilled maintenance workers in large organisations, the balance of power has changed in their direction. It seems that specialist groups with high levels of expertise are among those with doubts about participation: "to many such individuals, participation in 'their area' is anathema since they have earned the right to make particular decisions through the long term acquisition of specific knowledge, attitudes and skills (Clegg and Wall, 1984, p.438). Even when they operate in

participative structures, specialists often dominate proceedings because they have the skills and expertise which are necessary in making highly complex, technical decisions (Mulder, 1971, pp.31-38). Marchington and Loveridge (1983, pp.81, 82) found in their case studies that management attempted to legitimate its use of authority through superior knowledge of the environment; in the unstable market of furniture manufacture an aggressive and highly personalised style of management was considered effective, while in the stable market of the metal firm the scientifically trained managers tended to dominate. In both cases management accepted employee involvement only on issues considered relatively safe and of lesser importance.

The introduction of participation may not cause loss of power to management. Saunders (1977) suggests seven ploys which managers who are forced "to adopt the trappings of a democratic regime can adopt" (p.33). This allows the company to reap the "quite considerable rewards from looking modern and democratic" (p.33) without affecting the power balance. The means of appearing to consult without doing so are represented by I DOCTOR, a mnemonic for Intimidating; Documenting; Obscuring; Confusing; Timing; Organising; Rigging. While the

paper is, as Marchington (1982) says, "presumably satirical" (p.157), there does appear to be reason to suspect that it is not so far from the truth. For example, Marchington (1980) describes the means used by a joint management-workers committee chairman to get the decision he originally wanted by keeping firm control of meetings.

Finally, Dickson (1981, p.171) proposes that participation is an extension of control over employees rather than a means of employee influence over upper management, a view which he says is contrary to most of the literature on participation. His results show, however (p.172), that participation will occur only if it is circumscribed by formal structures and procedures, and it will work only if its potential for influence is restricted in scope and intensity.

CHAPTER 4

4.1 Quality Circles: Definition and Development

Within the decade 1975-1985, a large number of British companies, possibly as many as 250, introduced direct participation in the form of a quality circle programme. The definition of what a quality circle is can be debated endlessly. Gibson (1982, p.1) claims that "there appear to be almost as many definitions of quality circles as there are large and small US organisations that have implemented the process". Most definitions would accord in some degree with that given by Cadwgan (1981):

> "A small group of people doing similar work who meet voluntarily on a regular basis, usually under the leadership of their supervisor, to discuss their work problems. They analyse the causes of those problems and recommend solutions to management" (p.7).

A quality circle, therefore, resembles other participative work structures. However, an important additional feature which is included in other definitions, for example, Hutchins (1980), is that "the quality circle has the authority to implement agreed changes" (Collard, 1981, p.3). The extent of this authority is a matter of some controversy and, as will be seen later, the source of problems in the operation of circles. Additionally, the participants in quality circles are formally instructed in elementary techniques of problem solving involving statistical methods, problem analysis techniques (fishbone diagrams), quality strategies (pareto analysis), measurement (histograms) and also in group communication processes (brainstorming).

Modifications of the basic model abound and few organisations have accepted the original model without some adaptation. Lawler and Mohrman (1985) consider that while most organisations "finetune the quality circle approach to suit their needs" (p.65), there are sufficient similarities across organisations to allow generalizations and comparisons to be made. The tendency to adapt quality circles is seen by Russell (1983) as necessary since "solutions developed in one (organisational) culture may be completely inappropriate in another" and "QC's are suitable in appropriate application ... only with certain modifications" (p.3).

4.2 Origins of Quality Circles

It is generally agreed that quality circles had their origin in Japan in the 1960's. There, the origins of small problem-solving groups who address issue of quality at work can be traced back to the post-war influences of American organisational research. The concept of quality circles, according to Gibson (1982) "is a skilful compilation of ideas and techniques that are almost all American in origin" (p.1). Bradley and Hill (1983, p.291) detect three discrete strands in the intellectual pedigree of the Japanese quality circle concept. First, the thesis of W Edwards Deming stated that causes of and solutions to problems could be revealed through statistical analysis. Deming followed Shewhart (1931) in defining quality control as:

> "the control of quality through the application of statistical principles and techniques in all stages of production directed towards the economic manufacture of a product that is maximally useful and has a market".

Secondly, through Dr J M Juran the Japanese were introduced to the notion that quality assurance was an integral part of the management function and should be practised throughout the organisation rather than exist as a separate specialized function.(1) The ideas of both Deming and Juran were "blended together with a shrewd sense of Japanese economy into a formidable process which focusses on one small organisational problem at a time and results in the gradual improvement of the total organisation" (Gibson, 1982, p.2). Finally, the research of American behavioural scientists, such as A H Maslow and Douglas McGregor, which Japanese delegations encountered while visiting the USA, "suggested that production efficiency and worker morale, defined as job satisfaction and involvement in company objectives, improved as a result of increased employee participation in job-related decisions" (Bradley and Hill, 1983, p.292). The cultural values of the Japanese also emphasise group-oriented achievement which is implicit in the participative style of management advocated by theorists like Douglas McGregor in Theory Y (1960).

Cole (1979) traces the development in Japan of the shift in quality control "from being the prerogative of the minority of engineers with limited shop experience to being the responsibility of each employee" (p.136,137). Within the framework of the union of Japanese Scientists and Engineers

(1) Juran is sceptical about the extent of his influence. To attribute Japan's success to him he considers "ludicrous". The structured approach to managing for quality was brought to many countries, none of which has attained comparable results (1982, p.22).

(JUSE) the Quality Control research group began to involve foremen directly in solving quality control problems and to encourage discussion of quality control between foremen drawn from a range of companies. In 1952, the quarterly magazine Quality Control for Foremen (Gemba to QC)[1] began and was a major factor in launching quality circles. Less conventional forms of training followed; radio courses of 91 fifteen minute lessons were broadcast daily from June to September 1956 and repeated annually until 1962, and in 1960 a television lecture series continued to reach a broad audience.

Over two decades, 1962-1982, quality circles in Japan grew from small beginnings to become a significant force in many Japanese companies. It is estimated that in the early 1980's there were about four million workers involved in quality circle activities, that is, roughly one in eight Japanese workers. While the QC movement is now well developed and seen as significant in its effects on Japanese industry and commerce, the extent to which the success of Japan in recent years is attributable to quality circle activity is debatable. In an interview with J R Arbose (Juran, 1980, p.24) Juran maintains that, based on his observations in Japan and his contacts with Japanese experts, only 10% of the total quality improvements in Japanese industry is attributable to quality circles. Zemke (1981, p.63) suggests that quality circles may suffer from the "salvation in a box" syndrome due to the overreporting of successful and underreporting of unsuccessful programmes.

(1) Juran (1967) describes the Gemba-cho as "a sort of working foreman ie he is partly a work leader and teacher and sometimes a production worker" (p.331).

Robert Cole (1980), warns of the danger of attaching too much importance to the quality circles in Japan and of falling victim to "the myth of Japanese invincibility" (p.30). He maintains that quality circles do not work very well in many Japanese companies: "Even in those plants recognised as having the best operating programs, management knows that perhaps only one third of the circles are working well, with another third borderline and one third simply making no contribution at all...Japanese companies face a continuing struggle to revitalize circle activity to ensure that it does not degenerate into ritualistic behaviour" (p.30). Similarly, Ohmae (1981, p.18) mentions that a chief concern for Japanese companies with quality circles is keeping enthusiasm for them alive, for example, by introducing quality circle members to new techniques and methods, subdividing and reorganising the circles or inviting outside speakers and senior company executives to meetings.

4.3 Diffusion of Quality Circles

In the last decade, the growth of quality circles outside Japan has been spectacular. In all industrial countries, there is evidence of companies starting up quality circle programmes. According to Lorenz (1981e, p.8) quality circles have been taken up more quickly in the Far East and America than in Western European countries. The slower pace in Europe may reflect less active consultants or may be "because the more authoritarian structures of French and German companies offer less fertile ground for growth" (p.8).

The diffusion of participatory work structures across countries and firms is considered in detail by Cole (1982) whose approach involves "an interweaving of models of the diffusion process with the politics of diffusion" (p.168). Cole focusses on direct participation for a variety of reasons; because it is in this area that Swedes and Japanese have been most innovative, and research suggests that direct participation is the area that most matters to workers. He compares the diffusion of participative work structures in Japan (quality circles), Sweden (automonous work groups) and the United States (job humanization, quality circles). Cole's examination of the diffusion of quality circles in Japan is based on research data collected between 1977-78 and includes survey data from 'early adopters'.

From his data, Cole concludes that quality circles "tend not to threaten the hierarchical structure of authority as much as some other forms of direct participation... Foremen tend not to be threatened by the circles and indeed often serve as leaders of them" (p.174). On the basis of these data, Cole considers that "circles come packaged as relatively self-contained innovations" (p.175) and thus, he concludes, the hierarchical structure is not necessarily destroyed by decentralization of decision-making. The theoretical point emphasised by Cole accords with the non-zero sum view of power in the organisation. He suggests that authority can be delegated without removing accountability for their decisions from lower level employees... "The point needs emphasising because there

has been a lot of simplistic theorizing that assumed that increased worker participation in decision-making automatically broke down the structure of hierarchical control" (p.175).

The Japanese implementation of direct participation, according to Cole, should be seen more as part of a corporate strategy to maximize resources to overcome competitive threat and less as encouragement of democratization and the intrinsic value of participation. "In this sense, participation was more a responsibility, an obligation, of each employee than an opportunity to express one's talents and take charge of one's own situation and environment" (p.175).

Outlining the process of transfer of quality circles from Japan to the United States, Cole (1982, p.184) highlights the differences between the models of management found in those countries. The Japanese were familiar with the views of American behavioural scientists like Maslow, McGregor, Herzberg and Likert and were avid readers of American management books and articles as well as frequent visitors to the USA and recipients of American exports to Japan. Americans, on the other hand, are unused to learning from abroad and, unlike Japan, are not export oriented. Cole cites Shin'ichi Takezawa (1976) whose remarks bear these differences out:

> "The behavioural science model of management, however, is not perceived as the antithesis of the organisational reality as it might be in the United States. Instead, Japanese managers tend to accept the model as an idealized goal which essentially lies in the same direction as their own behavioural orientation. Often they are puzzled to find out that American management in practice fits the scientific management model far better than that of the behavioural sciences" (p.31).

For American managers, quality circles did not represent the same choice opportunity as it did to Japanese but "were seen as threatening to many managers and union leaders," (Cole, 1982, p.185). Cole believes that "the prevailing adversary relationships between managers and workers and managers and unions constitute a formidable obstacle to the adoption of new ideas about organising work in a co-operative fashion. The notion that worker loyalty and co-operation can lead to significant improvements in productivity tends to be seen as either trivial or impossible to achieve" (p.186).

There are undoubtedly important differences between the American and British experience of quality circles which will be addressed later, but the observations made by Cole of the diffusion process in the United States point to areas for further investigation. He describes (p.186) how the introduction of participatory work practices in Sweden, Japan and the United States to solve specific problems began to alter and became identified as a source of potential solutions to a wide range of problems and assumed the quality of a fad. Companies adopted participatory work practices because it was the thing to do and prestige became associated with the early adopters who became models to emulate, and much visited, and who turned this to a public relations advantage. The process then changed from one of problems chasing solutions to one where solutions began to chase problems (p.187).

The advent of consultants to the market serves to enhance the forementioned tendencies still further. Cole (1982, p.202) considers that there is an assumption in the United States that external consultants are essential to foster the trust needed when initiating any form of organisational change such as that represented in the introduction of participatory work structures. In the early 1980's, according to Cole, there was an exponential increase in the number of firms and private consultants installing and giving advice on quality circles. The use of consultants can, however, impede the diffusion process since without them the internal diffusion of quality circles can cease. This danger is also mentioned by Werther (1982, p.23) who warns against making the quality circles too much the consultant's programme so that nobody inside the organisation feels responsible for them and their progress is dependent on the consultant's availability and continued involvement.

Similarly, with the growth in demand for quality circle consultants in the United States at the beginning of the 1980's, many key managers skilled with this type of structure left their employers to begin consultancies. Cole (1982, p.203) mentions the case of Lockheed Space and Missile Unit who were pioneers in quality circles but suffered the collapse of the circle programme when three key managers left to start their own consulting business. These former Lockheed managers went on to establish the International Association of Quality Circles (IAQC) which was an important forum in desseminating

information about quality circles in the United States. In the quality circles model provided by the Reiker consulting group, the ex-Lockheed managers, a number of major modifications were made. Wood et al (1983, p.39) mentions the following: meetings held during working hours rather than after hours; creation of the role of facilitator and implementation of a quality circle infrastructure within the administrative system. According to Wood et al (1983, p.39), there was also a greater emphasis in the American version of quality circles on group dynamics, human relations and interpersonal communications in contrast with the Japanese version which is founded on statistical quality control and related methods for identifying and solving work-related problems. The potential problem here, say Wood et al (1983, p.39), is the possible overemphasis of the human relations aspects which may serve to underemphasise the quality control function of circles.

The successful diffusion of participatory work practices is also limited, says Cole (1982, p.204), because in the United States and Britain, in contrast to Japan, there is a reluctance to go public about success and companies tend to treat information gained from their experiences as semiproprietary. This attitude can have a negative impact on the diffusion process by restricting information. Company reports, when available, are of little value since they often gloss over difficulties, distort their experiences and are designed mainly to improve public relations. The diffusion which does take place then, while often rapid, is not necessarily of best

practice since there is an understandable reluctance among consultants to talk honestly about failure as well as about success.

The apparently self-contained nature of circles, according to Cole (1982, p.208), makes them marketable to potential users as unlikely to disrupt the organisation. To Cole (1982) "this suggests a mechanistic model of organisations in which 'part replacements' are available for specific defects. This contrasts with an organic model, in which a change of one part requires adjustment of all others as the changes reverberate throughout the system" (p.208). In the United States, advocates of participatory work practices tend to support the organic model which is more threatening to management and thus likely to impede the diffusion of circles. The popularity of quality circles due to their accessibility is mentioned also by Lawler and Mohrman (1985, p.66) who consider that this turnkey approach appeals to managers because it resembles the other commodities they buy in, for example, machines and training programmes.

The faddish nature of quality circles, mentioned above, is thought by some to be an advantage and by others, a disadvantage. Hazama Hiroshi (1973, pp.2-14) likens the implementation of any change to the taking of a stimulant which has a temporary boosting effect. In order to maintain the 'high' the fad is dropped and replaced by another. This point of view is not shared by Charney (1983, p.18) who is sceptical

of the value of "quick fix" approaches, none of which has a long-term effect. The jargon used by the "gurus of Japanese - type management" in promoting quality circles is, he claims, also evidence of the superficiality of the consultants' approach. In Charney's view, the real challenge is "to take quality circles beyond the fad stage, beyond the one-hour-a-week meeting, to a style of management, a way of life" (p.18). The failure to understand quality circles fully can, according to Mohr and Mohr (1983, p.214), be the result of rushing to start a programme without adequate preparation and information and is itself one of the most common problems plaguing circles. Publicity given to successful companies will lead other people to jump onto the quality circle bandwagon without studying the potential for applications thoroughly, leading to misunderstanding and unrealistic expectations. In a letter to the Harvard Business Review, Cole (1985) likens management's treatment of quality circles to teenager's attitude to fast food restaurants: "they can't wait to try the next one even before they have digested food from the first. Rather than waiting to take in what we already have on our plate, we have this need to move on" (p.202).

It is clear that many other commentators on American management are sceptical about quality circles. For example, Peters and Waterman (1982) point out "quality circles are only the latest in a long line of tools which can be very helpful, or can simply serve as a smokescreen while management continues to get away with its job of real people involvement" (p.241).

Quality circles can be seen as the latest in a series of initiatives aimed at improving product quality, most of which have had only limited success. Evans (1982, p.83) argues that quality awareness campaigns like "Zero Defects", "Make Certain", "Right First Time" suffer from the same basic flaw - they approach the problem from the wrong end, relying on top-down communication and management edict. Quality circles, on the other hand, reverse this approach starting at the sharp end in the belief that those who do the work are most likely to know what the problems are. Quality circles can be seen both as an example of direct participation and as a step on the road to participative management.

In reviewing the incentives to introduce quality circles, Cole (1980) considers that for companies "the desire to raise productivity and improve quality seems paramount...with the recognition that perhaps they have underutilized the worker as an organisational resource" (p.28). In Japan, it was companies whose labour turnover and recruitment problem were most acute which took the lead in introducing quality circles. The investment made in setting up participatory work structures was considered worthwhile if it made the company more attractive to highly educated potential recruits and reduced labour turnover and industrial unrest. In this instance, Cole (1982) points out that the participatory practices "were part of a corporate strategy designed to mobilize all resources to deal with heightened competitiveness in domestic and foreign markets and...a logical follow-up to the growing interest in improving

worker training and education" (p.180). Another factor which was instrumental in spreading quality circles in Japan, according to Klein (1981), was the desire of the workers "to secure their futures by helping their companies overcome 'underdog' and initially uncertain market positions" (p.12).

Economic factors also played a part in the growth of quality circles. An article in Chemical Week (1982, p.37) suggests that explosion of quality circles in the United States may owe a lot to the deep and prolonged recession of the late 1970's, with fear of unemployment making workers far more receptive to productivity programmes. An example quoted in the article is from the Olin Chemical Group which claimed that the workers were keen to join a quality circle as "they recognised early that their participation was the best thing that they could do to ensure further job security" (p.37).

The diffusion of quality circles in Britain resembled the American experience but is not as well documented. In the early 1980's, there was a rapid take off of quality circles following the first public seminars in September 1979. According to Lorenz (1981a, p.12), most companies in Britain made use of external consultants and the Department of Trade and Industry also supported the initiative. Undoubtedly, the American experience of circles reassured British organisations that, by and large, quality circles could be 'borrowed' from Japan, albeit with some modifications. The model introduced into British firms more closely resembles the American variant

(using a Facilitator and emphasising aspects of group dynamics) than the Japanese model. Similarly, because many of the British organisations which began quality circle programmes are of American ownership or origin, for example ITT, Ford, IBM, Hewlett Packard among others, it is likely that their introduction to quality circles came from the West rather than the East. Estimates vary, but it is considered that about 250 organisations in Britain have had some experience of quality circles, although it is very difficult to assess their progress.

In Britain, Rolls Royce Aero Division at Derby was first to introduce quality circles. Their objective, according to Jim Rooney (Lewis and Rooney, 1981, p.57), the facilitator, was to raise the general level of quality consciousness and to bring back the pride in performing skilled work which had been lost through the dilution of traditional skills as a result of technological change. At Jaguar Cars, it was felt that sales were falling because quality and reliability were poor and customers were deserting to foreign competitors, BMW and Daimler. Dick Fletcher (1982, p.2), facilitator at Wedgwood and Sons Ltd, considers that it was the survival of the company and the need to reduce the "them and us" feeling which had arisen between workforce and management which were the main reasons for introducing quality circles.

The extensive adoption of quality circles in the UK in the early 1980's was in part a response to well-publicized success stories coming from Japan and the United States. As in other countries, a range of factors and incentives combined with these accounts to focus management attention on the benefits which might accrue from introducing some QWL initiative.

However, on a sobering note, Cole (1982), considers that quality circles may in fact represent an instance where "the value of participation per se serves as an ex post facto rationalization" (p.177). Cole is sceptical that the decision made by the Japanese to introduce quality circles was indeed rational where alienation, democratization and dignity were seen as 'problems' and participative work structures were considered as 'solutions' to these problems. He deems it more likely that a focus on managerial incentives is relevant and proposes as a more plausible reason for the introduction of quality circles, the acute shortage of labour in Japan in the 1960's, with the virtues of participation (as leading to self-actualization, democratization, dignity and so on) brought forward only because they represent more powerful motivations. Loveridge (1980) in the same way considers that managers sometimes respond to exigencies

> "in a manner which does not allow time for rational search and analysis to concur with any logical progression of thought known to writers of management texts. Later rationalization of their actions may generally be considered to contain a large element of self-justification" (p.313).

CHAPTER 5

5.1 Quality Circles in the UK - Recent Research

There are a number of longitudinal and cross sectional studies of quality circle programmes in the UK which deal with the operation of quality circles in various industrial sectors. For example, Dale and Ball (1983) cover the manufacturing sector and Dale and Lees (1984) cover the service sector. Hill's (1986) longitudinal data from twenty-seven companies provide information on the progress of their quality circles over a four year period. Case studies of quality circle programmes in the UK can also give an indication of the environments and conditions which favour quality circles. Among the principal sources of case studies is Robson (1984) who deals with eight companies, British Telecom, Bally Shoes, a toy manufacturer, Blackwell's, Bank of America, Wedgwood, May and Baker and Alcan Plate. Evans (1982) presents two cases, Rolls Royce Ltd (Production Facilities) and Standard Telephone and Cables Ltd. A booklet prepared in 1985 by the Department of Trade and Industry as part of the National Quality Campaign presents six "examples of successful companies which have adapted the Circles to their own particular needs", Black and Decker, British Airways, Burton Carpets, Eaton Ltd, STC Components and Josiah Wedgwood and Sons Ltd.

Bartlett (1983) using a semi-structured interview method, contacted twenty-five companies in an attempt to determine factors associated with success or failure. Similarly, a survey was undertaken by Dale and Hayward (1984a) which covered

companies for whom circles had failed; failure was defined variously as 'failure to implement, quality circle programme failure, or individual circle failure'. These and other investigations have highlighted potential sources of problems which quality circles might encounter, and in some instances, suggest ways in which these problems might be circumvented or overcome. The principal findings are summarized below.

5.2 Quality Circles and the Participation Framework

(i) Objectives

Incentives to introduce Quality Circles appear to fall into the categories which appear in the literature on participation. Poole's (1975, p.56) categories which emphasise either benefits in efficiency or commitment to humanist or religious values appear fairly frequently; for example, according to Evans (1982, p.84), the multi-faceted objectives of quality circles can provide a range of benefits for both organisations and individuals. He summarizes them as follows:

Benefits for organisations

- Improved standards of quality and reliability, cost reduction
- Enhanced employee commitment
- Development of a more flexible workforce capable of tackling and solving a wider range of problems.

Benefits to supervisors

- Enhancement of leadership role
- Opportunity to develop leadership and problem solving skills
- Opportunity to improve supervisor/workgroup relationships.

Benefits for circle members

> Enhanced participation in work related decisions
> Enhanced work interest
> Opportunities to learn and use new skills.

The underlying assumption in this 'catchall' list is that, inevitably, the organisation will benefit through increased commitment, development and flexibility of employees. This echoes the "logic of efficiency" ideology discussed earlier. The second category where participation, in the form of involvement in quality circles, offers work humanization or improved quality of work life is apparent in Dale (1984a): "behind the Quality Circle programme and employee involvement, the companies appreciated that employees need to be treated as human individuals and that their work has some real meaning" (p.73).

The extent to which these benefits are realized by companies who introduce circle programmes is far more difficult to establish. In a survey by Cox and Dale (1985) of quality circle members in 12 engineering companies, it was found that some circles had not realized any of their expectations and others had significantly fallen short of expectations:

> "Comparing the expectations realized with the actual expectations, it was established that the quality improvements and cost reductions were realized, but claimed improvements in morale lagged behind expectations" (p.22).

The danger of under-realizing is that disillusionment can follow quickly, which, it is claimed (Dale and Hayward, 1984c, p.29), has proved to be a major cause of circle failure. A related issue here, which will be explored more fully later, is the difficulty associated with evaluation. As Dale (1984b, p.61) points out, when senior management are asked to allocate resources to a quality circle programme, elaborate claims are often made for the improved morale, job satisfaction and quality which will result. Too often, it subsequently proves impossible to justify the expenditure in quantifiable terms.

(ii) Content

As a form of direct participation, quality circles are limited in the range of topics they can address. This controversial issue is controlled through the choice of suitable projects for investigation. The selection of suitable projects is a problem mentioned by Mohr and Mohr (1983, p.218) who identify three types of difficulties: choosing a problem outside their own area, choosing an issue too large in scope, and having a solution imposed by an outside specialist. They prescribe training as the most appropriate solution to this problem. Robson (1982) maintains that the quality circles' brief is "to solve their own problems, not the next department's, the company's or the world's" (p.39), and that this frees management to focus on other matters. Robson's (1982,

p.40) view is that the circle ought to choose projects within their own jurisdiction and should, when necessary, be directed away from 'interface' problems with other sections or groups for the first two years of operation at least. He minimizes the problem of depleting suitable projects.

The research evidence does not bear out Robson's optimism. In their study of quality circle failures, Dale and Hayward (1984a, p.32) tabulate the 20 most common reasons quoted by companies for individual circle failures: circles ran out of projects to tackle (30%); over ambitious projects tackled (19%); delay in responding to Circle recommendations (16%); failure to get solution implemented (12%). Bartlett's (1983) survey of 25 companies also found "increasing evidence that many circle programmes begin to run out of steam after a year or so, with Circles casting around for new projects" (p.20). The terms of reference, formal or unwritten, excluded topics such as wages, salaries and benefits (matters dealt with through collective bargaining) and individual personalities; other companies "prohibited Circles from looking at problems outside their own department, on the grounds that this tended to create friction" (Bartlett, 1983, p.21). In an investigation of ten firms, five in the UK and five in the USA, Bradley and Hill (1983, p.305) examined the response to circles by middle management. They identified two strategies

used by the middle managers to minimize the potentially negative effects of circles; first, where middle managers, through circle leaders, restricted the topics raised by the circles and second, either where the middle managers interfered with the initial formulation or subsequent implementation of circle suggestions, or restricted the information available to the circles. Bradley and Hill concluded on the basis of their investigation that "the issues quality circles tackle may become more ambitious over time and potentially more threatening to middle managers and co-workers" (p.305).

5.3 Determinants of Participation through Quality Circles

The following section returns to Walker's (1970) factors which influence the system of participation, and looks specifically at the situational and human factors which may determine the appropriateness of quality circles as a form of direct participation in an organisation, and the likeihood that a form of participation will be institutionalized.

5.3.1 Participation Potential

(i) Autonomy

As mentioned above, for Walker (1970, p.447) autonomy is defined in terms of the range of managerial decisions taken above enterprise level, where the opportunity for lower level employees to participate in decision making is affected by both internal constraints and external factors. The decision to introduce quality circles into

British organisations may depend as much on the ownership of the organisation as on the attitude of those likely to be affected by their introduction. In reviewing the firms in Britain which have had some experience of operating a quality circle programme, it appears that in the case of individual plants, at least, pressure from the parent company may have had considerable influence in promoting quality circle introduction. In Britain, many of the companies with quality circles are American-owned. Of the twenty-five companies with quality circle programmes which Bartlett (1983, p.9) investigated, American-owned companies predominated among the Successes, British owned among Survivors and Failures. In the sucessful American companies, Bartlett found enthusiasm for circles on the part of top management, and generally more comprehensive systems in terms of circle handbooks, documentation and presentation procedures... "In several cases these were supported by clear policy statements from the parent company" (p.9).

It may also be significant that American-owned firms are found to be among the leading non-union employers in the country (TUC, pp.129-132). Beaumont and Townley (1985) argue that these establishments are growing in number in Britain and "they may be seeking to maintain their non-union status through the use of employment practices that have proved effective from such purposes in the United States" (p.811). Their research examined whether "non-

union plants in Britain are significantly more likely to have certain work practices (eg quality circles) which we know are currently strongly associated with non-union establishments in the United States" (p.813); they found a positive association between US ownership (itself significantly non-union) and the existence of quality circles or similar problem-solving groups (p.820). In another survey, carried out in Scotland, Beaumont (1985, p.17) found a disproportionate concentration of quality circles in foreign-owned establishments which, he suggests, may reflect the results of a transference process from parent companies in the US, where, as pointed out above, quality circles have spread widely in recent times (Mroczkowski, 1984, p.51). Peccei and Warner (1976) reviewed the structure of decision-making in a large, diversified British-based multinational enterprise, with twenty-one subsidiaries in the UK. Their data showed (p.70) that there were varying degress of autonomy of subsidiaries within this single organisation and that the decision-making structure was more fragmented, fluid and complex than had been previously thought. In a further analysis, Warner and Peccei (1977) looked specifically at worker participation and autonomy in the multinational (it appears that they were concerned more with indirect participation). However, they suggest (p.12) that the parameters of policy on participation were set at the highest level and concluded that "the most potentially effective

countervailing power may be that of organised labour in the national country" (p.12), Warner and Peccei (1977, p.8) also make the point that most of the largest multinational corporations are American and they basically do not approve of participation in the form of unions or external bodies.

External factors may also significantly affect the adoption of quality circles in an enterprise; of particular concern are the views of trade unionists. The response of trade unions in the UK to quality circles has been mixed. The TUC's guidelines (TUC, 1981) outlined their cautious approval of quality circles, but warned against the possibility of quality circles being presented "as a form of 'participation' - in answer to critics of British employers' autocratic style of management - while leaving managerial authority intact" (Lewis and Rooney, 1981, p.58). The stance taken by trade union officials spans a wide spectrum: from the right, Eric Hammond, General Secretary of the EEPTU, provides a foreword for the DTI (1985, p.3) booklet. He regards the hostility of trade unionists to quality circles as unnecessary and wrong and believes that trade unions will gain strength rather than lose it by allowing their members increasing influences over their immediate working environment. At the other extreme, the TGWU guide (1985) defines quality circles as "a management technique which is supposed to harness the expertise of

employees in improving all aspects of the quality of products and services" (p.3). The TGWU Trade Groups who presented comments were all hostile to the introduction of quality circles "because they have been seen to undermine union structures and collective bargaining" (p.6). In conclusion, the TGWU General Executive advise members "that where such schemes exist, they should be brought in line with union structures and under union control" (p.7). As an appendix to this guide, a scheme developed by George and Levie for controlling and negotiating on quality circles is outlined. They propose two sets of conditions for the introduction of quality circles; defensive conditions, whose aim would be "to maintain existing trade union power and to avoid an increased identification by the membership with management's philosophies and company aims," (TGWU, 1985, p.10) and offensive conditions, which allow the concept of quality circles to be turned to the union's advantage and strengthen the group element, the potential solidarity, fostered by the quality circle.

While the attitude of the officials of a trade union can have a significant affect on the policy taken by members in an organisation where quality circles are proposed, it is often matters more local which concern those members as employees. Bartlett (1983, p.15) considers that the implicitly critical tone of the TUC paper has not discouraged the spread of quality circles and that while

individual unions may offer differing advice, they generally allow members to make their own judgements. Evans (1982, p.92) maintains that evidence from unionized companies shows that trade union representatives have given their support to quality circles and that, where problems have arisen, they may have been caused more by poor communication and a failure to involve the trade union in the decision to implement circles. This is borne out in Bartlett's (1983) study of quality circle programmes - he found that the reactions of trade unions were predominantly positive and that there was "absolutely no support for the view that circles provoke automatic opposition from intransigent and bloody-minded trade unionists" (p.14); neither was there any example of union attitude to circles deteriorating as a function of experience. Change, when it occurred, was always positive.

Dale and Hayward (1984, p.4) found some opposition from trade unions members to the introduction of quality circles because they were sceptical of their merits and felt that they could undermine the role of the shop steward or challenge existing trade union power. In other instances, a pay dispute or other grievance was affecting industrial relations. It was rare for trade union opposition to be a major cause of quality circle programme failure.

(ii) Technology

Quality circles have been introduced into a wide range of technological environments but are most common in Britain in manufacturing industry. Robson (1982, p.177), who as a consultant takes a rather optimistic view of quality circles, considers that they are universally applicable. He provides examples and case histories which show "their applicability to any industry if they are introduced flexibly and allowed to fit the shape of the organisation concerned" (p.182). Of the twenty-seven companies in Hill's (1986) longitudinal study, twenty-six were in manufacturing, one in retailing. She considers this predominance of manufacturing to be caused by the perception that circles have more relevance to manufacturing than service industries. She states also, "it is theoretically easier to measure an improvement in the quality of a manufactured output than it is to measure an improvement in service" (p.26).

Dale's (1984, p.59) survey of companies with quality circles identifies areas in which quality circle activity is likely to take place. In manufacturing companies, circles were concentrated in production areas. Two departments, machining/manufacturing and assembly together account for nearly 80% of circles implemented in shop floor areas. Of the non-shop floor areas, the most popular departments were found to be general office, accounts/finance, design/drawing office and

planning/production control, with production engineering/technical and data processing also having some representation. Dale concludes that "the wide variety of departments in which circle activities are ... fully illustrates the point that they can be formed everywhere where people work together and share similar problems" (p.60). His respondents, facilitators of circle programmes, suggested that shop-floor circles found data collection and communication difficult areas while non-shop floor circles found it more difficult to adjust to the circle philosophy and generally faced more problems in operating the quality circle. In a related survey of quality circle failures, Dale and Hayward (1984, p.30) found that there was a slightly higher incidence of white collar circles failure (28%) than blue collar circles (21%), but that the reasons for failure often differed. For white collar circles, the three most commonly quoted reasons were lack of co-operation from middle management, difficulties in organising meetings, and labour turnover (p.34). For blue collar circles, the three main reasons were redundancies or company restructuring, labour turnover and lack of co-operation from first line supervisors (p.33).

Dale and Hayward conclude (p.9) that white collar circles may be more difficult to sustain than blue collar circles; more of them fail, and those which are introduced, endure for a shorter time; average duration

for white collar was 5.8 months, for blue collar, 9.6 months.

(iii) Size

Walker considers that company size can influence both the form and the extent of participation with only indirect participation being possible in large organisations. In the UMIST research, Dale and Ball's (1983) survey findings showed that 62% of manufacturing organisations with quality circles employed up to 1,000 employees, 33% employed 1,000-5,000, and 5% employed over 5,000; in the service sector, comparable figures were 50% of organisation employed up to 1,000, 14% employed 1,000-5,000 and 36% over 5,000, (Dale and Lees, p.9). On the basis of his data, however, Dale (1984, p.63) suggests that quality circles may be less beneficial in smaller companies, who may be less formally organised, may already have good communication and are likely to have a management style where problems can be reviewed, analysed and tackled without the establishment of quality circles. In Hill's (1986, p.26) longitudinal study, she found that the thirteen companies whose circles had survived over a four year period employed on average over twice as many employees as the fourteen companies whose circles had been terminated. This may have occurred, she considers "because larger firms have more resources to devote to initiatives, such as QCs, or because senior managers in large firms are more receptive to progressive management

techniques than those in smaller companies" (p.26). However, Hollman and Ullrich (1981) point out that problems of low productivity and satisfaction are found in both small and large companies and that small companies can resolve this by copying larger companies and introducing quality circles.

In terms of quality circle penetration, it may be the scale of the quality circle programme which is significant, that is, the actual proportion of employees engaged in quality circle activity. The evidence which exists suggests that in many companies with quality circles, fewer than 10% of employees are involved (Dale and Ball, 1983). Hill (1986, p.26) considers that where quality circle programmes are small, management commitment may be commensurately small and the programme may be vulnerable to loss of key personnel. In addition, the impact of quality circles on the work behaviour and operation of the organisations may be limited. Hill found also that the companies whose circles had survived had quality circles programmes on average twice as extensive as those whose programmes had terminated over a four year period, where even at the peak of operation, the programmes were very small.

(iv) Structure

The high incidence of employee involvement schemes in new plants in the USA has been commented on by Lawler (1978)

and Walton (1979). Innovations such as involvement of the workforce in plant layout decisions, skill-related payment systems, absence of middle management, regular career planning, profit sharing are subsumed by Lawler (1978, p.6) under the term "participative management". According to Lawler, this translates into "pushing decisions as far down the organisation as possible" (p.6), with production line employees making decisions on purchasing, quality control and even personnel selection. Beaumont (1985) conducted a survey in Scotland covering new plants to discover if the frequency of innovative working practices identified by Lawler occurred in his sample also. From a sample of 63 usable replies, 30% (N = 19) reported they had quality circles; Beaumont (1985, p.17) found that the incidence of quality circles was further related to certain organisational characteristics - foreign ownership and large size. Many of the plants with staff status arrangements and autonomous work groups were non-union which, Beaumont considers, are "important components of the human resource management package that non-union employers use in their attempt to establish a strong company-identification process" (p.17). This identification process, he says, is associated with organic management systems which limits the demand for unionisation.

In a further analysis of these data, Beaumont and Townley (1985) consider that "Burns and Stalker's (1959) concept of an organic, as opposed to mechanistic, management

system could be a useful analytical tool for understanding the human resource management strategy and policies of such firms" (p.823). They suggest that the adoption of work practices like quality circles may have more to do with product market and technological influence and changes than simply union avoidance. As Burns and Stalker pointed out, the rate of technical and product market change acts as a stimulus or incentive for adopting an organic structure.

(v) Nature of the Product and Product Market

As mentioned above, quality circles are commonly found in organisations whose structure is 'organic' rather than 'mechanistic', are foreign owned and frequently non-union. In terms of the industry in which organisations with quality circles operate, it seems from surveys that it is the engineering classification which predominates. In Bartlett's (1983, p.4) survey of twenty-five companies, seventeen were in Electronic, Mechanical or Control Engineering with single representatives in Chemicals, Rubber, Ceramics, Pharmecuticals, Paper and Packaging, Adhesives and Explosives. Dale's (1984, p.51) survey of 68 manufacturing companies with quality circles found that 45 were in Mechanical and Electronic Engineering and Chemical and Allied Industries with the rest in Food, Pottery and Glass, Clothing and Footwear Textiles, Paper and single representatives in Tobacco, Non-ferrous metals, Construction materials, Sports

equipment, Transport, Domestic Appliancies and Motor vehicles. This pattern is repeated in other countries. In Japan and the USA, companies in electronic engineering, pharmaceutical and aerospace, where quality demands are extremely high, have been in the forefront of those introducing circles.

There is little doubt that the worldwide economic recession of the 1970's played a major part in encouraging companies to find new ways of motivating their employees. As was started earlier, many companies turned to quality circles in the hope that they would encourage greater identification with the company's survival. It was felt that fear of unemployment would make workers more receptive to productivity programmes of this nature (Chemical Week, 1982, p.37). Lorenz (1981) considers that a major top management preoccupation in the late 1970's was the improvement of both productivity and product quality as a means of surviving the triple onslaught of recession, inflation and unprecedented competition.

In 1984, Marchington and Armstrong (1985, p.17) revisited thirteen workplaces first visited in 1980, to find out how they had performed in the intervening period and to see to what extent changes in employment patterns, industrial relations or introduction of new forms of employee involvement - such as quality circles - had

taken place. Of the thirteen organisations, only one had introduced quality circles and this was a response to a company-wide promotion rather than a local initiative. However, Marchington and Armstrong (1985, p.21) did detect a revitalisation of indirect participation, for example, consultation.

Declining markets and increased competition both at home and overseas can create great uncertainty. The introduction of participative work structures can be seen, says Purcell (1983, p.12), as a response by a macho management taking advantage of large-scale unemployment and a government which is hostile to trade unions. However, he questions the relationship between management style and changes in product market, arguing that the last few years have shown an introduction of tough policies bringing short term benefits in productivity and union acquiescence.

(vi) Social and Cultural Factors

It was perhaps these final factors, more than any others, which initially prompted questions over the feasibility of introducing quality circles in Western organisations. Peter Drucker (1981) was among the first to draw the attention of American management to features of Japanese managerial strategies. Many other commentators, among them Pascale and Athos (1981), Dore (1973), Johnson and Ouchi (1974), reinforced Drucker's points and encouraged

first American, and then European managers, to examine more closely the ingredients of Japanese successes in the 1970's.

There are many features of Japanese business which are not found in any western country, for example, close government-business ties, company-based unions, commitment to lifetime employment, small group tendencies, determination of wages by age, (JETRO, 1981; Takeuchi, 1981). In particular, the proclivity of the Japanese for working in small groups rather than as individuals may, it is argued, have eased the introduction of quality circles into a receptive company environment. As was stated earlier, quality circles had the added attraction that they apparently could be exported wholesale while other features of Japanese business could not.

In common with other 'sceptics', Jones (1983, p.97) considers that the Japanese worker has a special relationship with the company and accepts that the financial benefits of quality circles will go direct to the company. For the Western worker, a balance between intrinsic and extrinsic rewards must be developed if, in the long term, quality circles are to succeed in the West. Among other points, Jones (pp.100, 102) questions whether the existing climate composed of important prevailing norms, values and attitudes, is appropriate to

support quality circles; the approach, he says "is not a package that can simply be grafted onto a company's existing structure...The body may not be compatible with the transplant" (p.102). According to Jones, the quality circle approach calls for significant shifts in management attitude which are difficult to bring about. Without this change, however, approaches like quality circles "are likely to be viewed by the workforce as cosmetic and a sham" (p.102).

A less pessimistic view is taken by Russell (1983, p.3) who considers that the controversy surrounding this 'culture-bound phenomenon' has now become confined to scientific examination. He cites the view of Kaora Ishikawa, a leading Japanese authority on quality circles who considers that "quality circle activities have no socioeconomic or cultural limitations. Human beings are human beings whenever they live and quality circle activities can be disseminated and implemented anywhere in the world for human benefit" (p.3). Without disregarding Ishikawa's view, it does seem probable that some adaptation will be necessary; as Russell himself points out later, "Solutions developed in one (organisational) culture may be completely inappropriate in another...what may be a successful innovation in Blackburn may be a complete disaster in Wigan" (p.3).

5.3.2 Propensity to Participation in Quality Circles

(i) Workers' Propensity to Participate

(a) Attitude

Despite the fact that quality circles are an attempt to involve workers directly, there is surprisingly little information about the attitude of British workers to their introduction. The evidence from the USA suggests that, compared to Japanese workers, some of the American workforce are more interested in escaping their jobs and companies at the first opportunity and less interested in making their jobs more secure and their company more competitive (Klein, 1981, p.18). Similarly, Cole (1980, p.39) reports an American company where, although 40 per cent of the hourly workers were taking part in quality circles, there was still considerable resistance especially from older workers who did not see any virtue in circle activity and did not think that circles were likely to change the way things had always been done. They expressed this hostility by calling circle members "circle jerks".

The creation of 'in' and 'out' groups, that is, circle members and the rest, is discussed by Jones (1983, p.98), who considers that the selective nature of circles denies the opportunity of joining to some employees; some areas of the organisation are likely to be less amenable to circle activity than others. The danger here, warns Jones (1983) is that "the outsiders may begin to view

their colleagues as collaborators with management, leading to tension and distrust" (p.98). Lorenz (1981e, p.8) reports that in conversation with circle members, this problem was raised... "some of our mates who aren't in the circle accused us of working for the bosses - it was really hurtful". He also reports on the consequences which poor communication and publicity had on circles at ITT's Harlow factory. The quality circle leader there suffered the taunts of her colleagues because they had not been told why only a small group had been asked to take part in the new quality circle, nor were they aware of the purpose of the circle. However, after the circle began to produce results and the word went around of what was happening, the situation changed, particularly when improvements were introduced which were to everyone's benefit.

Detailed research in the US by Dean (1985) into the reasons given by employees who join quality circles attempts to relate this decision to other factors. Dean concluded that "people who desire greater involvement in an organisation and people who believe that circles will be instrumental in making improvements were more likely than others to join QCs" (p.325). These factors are further affected by belief in the credibility of the organisation's management and general level of satisfaction with their jobs. Those who had chosen not

to join quality circles gave as one of the main reasons their belief that no real change would be produced (p.326). Dean concludes "that the goals of employees who become members of quality circles are closer to those of management than is generally thought" (p.317). One study which compares attitudes to quality circles of British and American employees is that of Bradley and Hill (1983), who comment on the dangers of misinterpreting employees' work behaviour and images of management:

> "Participation in a management-inspired quality circle programme, which may be seen as pro-management behaviour, does not necessarily eradicate employees' dichotomous work place images, and these do not preclude temporarily harmonious employee relations. Rather, employees exhibit an uneasy alliance between work satisfaction, support of managerial policies, and images of management" (pp.298-299).

Norris and Cox (1987) found that, using discriminant analysis, a profile of a typical quality circle participant could be developed. In a study comparing circle members with non-members, they identified six variables which significantly discriminated between the two groups; a tendency to view their supervisor as more considerate, longer tenure, better education, lower performance, less job satisfaction and more frequent absences. They concluded:

> "It is plausible that these employees viewed the circle programme as an opportunity to develop their abilities for improving job performance and enhancing personal satisfaction. If this were true, they would more readily participate in a circle. Additionally, their higher education level would perhaps be consistent with a willingness to explore new avenues for increasing personal success.

> Perhaps the combination of longer service, more education, and yet poorer performance placed circle members in a motivational posture to seek a solution to their dilemma" (p.216).

It is possible, as Lorenz (1981e, p.8) suggests, that once quality circles become visible problem-solvers, the sceptics will be won over and members will become more positive in their attitude. However, even in Toyota Auto Body in Japan, there is evidence that this may not be so. Cole (1979, p.166) reports on the 1975 company morale survey, which showed that 30 per cent of the workers reported quality circles to be a burden. Union surveys found that participation in circles increased the physical and mental burdens experienced by workers (Marsh and Mannari, 1976, p.302). Cole considers that these feelings arise from competition between groups and pressure to submit suggestions.(1)

In a survey of 'early adopters' of quality circles in the US, Cole and Tachiki (1984) identified employee resistance or apathy to quality circles as one of three factors which hindered the spread of quality circles within firms. This problem was reported more commonly by firms with successful programmes which Cole and Tachiki (1984) consider could be due to the "halo effect"; "The initial enthusiasm expressed for quality circle

(1) It may be fair to point out, nonetheless, that for Toyota workers in Japan, quality circle membership is mandatory, and, while there is evidence of apathy and dissatisfaction among members, the overall incidence is still comparatively low.

activities represents the feelings of a select group of workers who volunteer to participate in the initial pilot phase. But as quality circle activities spread throughout the firm, a broader spectrum of employees becomes involved and the novelty starts to wear off" (p.425).

Marks et al (1986) surveyed participants and non-participants in a quality circle programme and found that the attitudinal data supported claims that participation in quality circles improved quality of work life... "In this particular case, participation in a quality circle appears to have done more to provide informational and emotional social support to buffer against potential threats to work life quality than to directly enhance employees' perceptions of their jobs and work situations. The performance results, however, document a positive and substantial impact of QC participation on employee productivity and attendance" (p.69).

Similarly, in their research, Bradley and Hill (1983, p.299) found that membership of circles improved aspects of workplace management-labour relations; in the British company, members were more likely than non-members to report that management had time for them and listened to their suggestions about work organisation. The results of a survey by Dale and Lees (1984, p.82) confirm these results; circle members had developed more confidence in

their abilities, and were prepared inside and outside circles to make decisions. They were more confident in dealing with management and were more prepared to have constructive discussions with them about general work problems. Non-members of circles initially regarded circles as 'a bit of a joke' calling them 'tea parties' but, according to Dale and Lees, this attitude changed when non-members themselves began to see the benefits and perks accruing to circle membership. In a survey of members' view of quality circles, Cox and Dale (1985, p.21) found that the main reaction to circles from non-members was lack of interest. Hill's (1986, p.31) follow-up survey of companies whose quality circles programmes had survived but who had experienced the failure of individual circles indicated that lack of commitment from circle members came a close second to lack of middle management support as a cause of failure.

The research findings, by and large, indicate that those who join circles find the experiences rewarding. Whether this is a result of their membership or due to a process of self-selection is difficult to ascertain. It would also be prudent to regard these results with some caution as they are prone to members' self-justification.

(b) Capacity

The capacity of workers to act effectively as members of problem solving groups, like quality circles, will depend

to a large extent on the training they are given to identify and analyse problems, and also on their educational level.

Jones (1983, p.100) questions if the western industrial workforce as a whole is educationally equipped to get the best out of quality circle techniques or whether educational restraints will prevent western quality circles from developing as extensively as the Japanese. To master and apply the basic statistical and control techniques, circle members must possess a certain level of numeracy, literacy and logico-deductive skills. The Japanese, argues Jones, may be better equipped for circle activity than westeners, since their educational system places considerable emphasis on scientific and technical training. Cole (1979, p.139) points out that all Japanese high school graduates have been exposed either to the specific statistical techniques taught in circles or to the general modes of thinking that parallel them, which undoubtedly increases the effectiveness of the training received by workers for circle participation. Jones (1983, p.100) asks if circle programmes in the west have indeed run into problems at the training stage because basic skills such as numeracy or literacy were lacking. According to Lorenz (1981d, p.17), even before Japanese workers are introduced to quality circles, the vast majority start from a higher educational level and receive extensive training in quality assurance

techniques as part of their general education in technical skills.

Training for circle participants, members and leaders, covers two major areas; interpersonal and group skills, and problem solving and technical skills. It can be carried out by the training department of the organisation or, more usually, by an outsider, often a consultant. Indeed, it is often at this stage that consultants first become closely involved with the organisation. Robson (1982, p.71) describes the usual sequence of training for quality circles: first, train the facilitators in the skills required for their role; secondly, train potential leaders, and thirdly, ensure that facilitators and leaders train members successfully. Where possible, the training is closely applied to practical problems of the work place and the circle learns as it undertakes initial projects.

Training is seen by many as the key advantage which circles have over other communication and motivation devices. According to Lorenz, (1981c) it is "perhaps the first time [that] shop-floor workers are given the knowledge of how to resolve technical work problems in an organised way, through group brainstorming, check sheets, pareto charts, cause and effect diagrams" (p.10). This allows them to communicate with management on more equal terms and increases their chances of being heard.

The initial period of training is usually extended into 'training over time' to ensure the circles' long-term viability. According to Goodman (1982, p.369-380) there are three aspects to be considered: first, that periodic re-training allows the workforce and organisation to adapt to changing circumstances; secondly, periodic re-training re-affirms principles and procedures, maintaining enthusiasm and interest; thirdly, new members receive formal training to provide them with the necessary skills to participate fully in the circle. For original members, re-training will allow them to take on more difficult projects, maintaining their interest and challenge.

Hutchins (1980, p.11) believes that lack of training of circle members and leaders in group dynamics is one of the more worrying problems involved in the establishment of circles. However, in their survey, Dale and Ball (1983) report that only 5.4 per cent of respondent companies identified inadequate training of members and leaders as an obstacle to the introduction and operation of their circle programmes. Nevertheless, there is evidence that inadequate training of members can lead to failure. According to Tony Seed the quality director of ITT components in Britain, the company's neglect of investment in training was responsible for much of the failure of the quality circles at the Great Yarmouth Plant (Lorenz, 1981e, p.8). While agreeing that training

has a significant part to play in the success of quality circles, Dean (Marks, 1986, p.44) considers that the very detailed problem solving model adopted by Lockheed and used widely in the US and Britain is itself a cause of problems. "It is like using a tank to kill a fly. Most people who go through training are bored to death because much of what is covered does not relate to their personal work situation".

However, Bartlett's survey (1983, p.16) demonstrates the effects which little or no training had on the success of a circle programme. Of the seven companies who did not provide training for their quality circle leader, six had failed, one was surviving; of the nine companies who did not train their circle members, six had failed and three were merely surviving. According to Bartlett, "failures were not prepared to spend money on training, and some rationalised this by claiming that running a Circle was a simple, common-sense activity for which an hour's introductory talk was quite sufficient" (p.16).

While some trainers, mainly consultants, emphasised problem analysis, others placed equal weight on group leadership and human relations, for example, dealing with motivation, group behaviour. There was no evidence that either approach was more effective. Indeed, Hutchins (1980, p.11) suggests that in choosing what to include in a training programme, the rule should be "keep it simple"

as circles come to grief more often because of over-ambitious training programmes than the reverse. For Hutchins, discussion of theories of motivation and the like should be avoided.

The inclusion of managers in shop-floor circles is sometimes proposed on the grounds that, left to themselves, small groups of workers from one part of the shop-floor would be unable to find solutions to complex or technical problems. Additionally, some managers, says Lorenz (1981d, p.17), were concerned that circles would tend to select problems that they cannot resolve on their own and will blame someone else for their failures. Both of these issues reflect on the capacity of shop-floor workers to act as problem solvers. The issue of lack of technical expertise can be overcome by training or by inviting specialists to circle meetings as appropriate. The second issue, according to Hutchins (Lorenz, 1981d, p.17) indicates a lack of trust in both quality circle training programmes and in the workers' sense of responsibility.

(c) Power

There are three main issues to examine in the context of workers' power in quality circles; first, membership, secondly, choice of project, and thirdly, implementation of solution.

To many, it is imperative that nobody is forced to join a quality circle. As Bank and Wilpert (1983) put it, "employees may be subjected to management persuasion and peer group pressure to join Quality Circles but they are not coerced into joining; no payments are offered for circle involvement and no one is explicitly penalised for not taking part" (p.26). Voluntariness, say Dale and Hayward (1984b, p.15), ensures that the commitment of those who wish to join will be high, and provides visible proof that the programme is for the benefit of the members as well as the company. Compulsory participation will lead employees to perceive circles as another top-down exploitative management technique. Members who are not volunteers may resent being at the meetings and become disruptive or non-contributing which, according to Mohr and Mohr (1983, p.217), could affect the success of the programme. The principle of voluntariness should operate at all levels, from managing director to shop-floor employee, says Robson (1982, p.34), and should operate for members on a week-to-week basis.

The choice of project is an issue which has been discussed above but it is one where the power of the quality circle to control its operation is clearly seen. Selection of projects by management, says Arbose (1980, p.35) merely reinforces the existing system, while allowing circle members to make the final selection reassures them that it is their programme. Equally

important, and the subject of controversy, is whether circles have the authority merely to recommend solutions to management or to implement those solutions. Barra (1983) puts both issues firmly under management control: "Management's right to set the limits for the types of problems that a circle may work on and its right to accept or reject a circle recommendation ensures that projects that are implemented will benefit the organisation" (p.73). The people who have to accept and act on suggestions, are middle-level managers, according to Lawler and Mohrman (1985, p.68) who, for varying reasons often resist new ideas, either by formally rejecting them or taking too long to respond. This will discourage the circle and make them feel that they are being mistreated. However, even where the proposal was accepted, they found many instances where implementation did not follow, causing serious loss of credibility to both the programme and management. This outcome can also cause circles to lose momentum.

Bartlett (1983, p.23) found that in companies with successful programmes, reactions by management to presentation had been strongly favourable and acceptance of circles' proposals was as high as 90 per cent. In Hill's (1986, p.27) study, three of the companies with unsuccessful programmes claimed that the proportion of suggestions implemented by management was 50 per cent or less. Of companies with successful programmes, ten had

implemented between 76 and 100 per cent of suggestions put forward by quality circles. It is clear that circle members perceive management support of their proposals as a vote of confidence in their work - indeed slow management response to proposals has been shown to be a major obstacle to circle programmes (Collard and Dale, 1985, p.29).

In dealing with the issue of workers' power and its effect on propensity to participate in quality circles, it is perhaps necessary to focus also on the change in the balance of power between workers and management, and workers and others which quality circles may bring about.

In analysing the causes of the popularity of quality circles, Lawler and Mohrman (1985, p.66) identify four features; first, their accessibility; secondly, their 'faddish' nature. The third and fourth reasons imply that control of circles rests firmly with management, as "management can easily control the number of people involved as well as the size and cost of the programme". Finally, circles are attractive to managers since "because quality circles have no decision making power, managers don't have to give up any control or perogatives. Also, because they are parallel to the organisations structure, top management can easily eliminate them if they become troublesome" (p.66). This point of view seems extreme and suggests a basic lack of

trust between management and quality circles which would make their success problematic.

Dale (1984, p.82) sees the introduction of quality circles more as a process of management delegating responsibility to the workforce while retaining control over the implementation of suggestions. He describes an instance (p.83) where in a management seminar in the early stages of a company's involvement with circles, those present were asked to brainstorm to decide on reasons why circles might fail. It was concluded that lack of trust on behalf of management in the ability of shop-floor workers to tackle problems constructively and act responsibly was the major reason. The issue of management attitude, particularly that of top and middle management, will be examined in detail in the next section. It is, however, impossible to speak of changes to workers' power without reference to managerial control.

As well as changing the balance of power between quality circle members and management, there is some evidence that non-participants in circles feel that their relationships with quality circle members is affected, Bradley and Hill (1983, p.303) found that 'insiders' that is, quality circle members and 'outsiders', non-members, differed in their perceptions of whether quality circles served employees' best interests. There were also

significant differences between members and non-members with regard to efficacy of quality circles and their ability to influence management decisions and job organisation. In addition, non-members were less likely to support suggestions from quality circles. In both the American and the British company, Bradley and Hill found that members reported opposition from non-members to changes suggested by circles and resistance to their implementation. These findings, they suggest (p.304), indicate that the success of quality circles may involve some trade-off in heightened tension and potential conflict between employees.

Similar results are reported by Marks et al (1986, p.66) in comparisons of participants in a quality circle programme and non-participants; non-participants indicated less satisfaction with opportunities to take part in the decision-making process at work. Their perceptions of communication both within their work groups and throughout the organisation and satisfaction with opportunities for accomplishment and advancement also decreased significantly.

(ii) Management's Acceptance of Participation in Quality Circles

(a) Attitude

The extent to which management will accept and promote quality circles in an organisation may depend on the dominant managerial ideology, that is, the extent to

which they adopt a unitary or pluralist position. Purcell (1983) considers that while many industrial relations specialists are pluralist in their views, "the vast bulk of managers are likely to incline to the unitary position...[because] unitary values have been strongly inculcated in their own training and development, they are uncomplicated in their implications, and they are self-reassuring" (p.11).

However, Purcell, in relation to Fox's (1966) categories or frames of reference, suggests that Fox's use of the term 'traditional' to characterise the management style of non-union firms, is inadequate to cover the range of unitary approaches from the sophisticated paternalism of non-union firms like IBM or Marks and Spencer, to owner managed firms with their vigorous opposition to trade unions. Indeed, Purcell argues that "the sophisticated paternalist companies, especially those that are foreign-owned, are increasingly used as a model for employee relations policies, as witnessed by the growth in quality circles" (p.12).

However, Beaumont (1986, p.156) identifies a number of difficulties in using 'spread of quality circles' as an index of the influence and emulation of management style, and concludes that, on the basis of the evidence available in Britain, Purcell's contention is impossible to support. He quotes Cole (1982) who considers that,

coming as a relatively self contained innovation, circles tend "not to threathen the hierarchial structure of authority as much as other forms of direct participation" (p.174). Thus, the presence of quality circles, concludes Beaumont, "is likely to tell us little about the overall management style of the organisations concerned" (p.157).(1)

Douglas McGregor's (1960) categories, Theory X and Theory Y, as mentioned above, are frequently used by commentators on quality circles to typify management attitudes and behaviour. Robson (1982) considers that quality circles can be fitted into either a Theory X, traditional model or a Theory Y, participative model.

> "A Theory X company will perceive Quality Circles as devices for making people think they are participating in the generation of a range of improvements at the workplace. They will tend to see it as something that will last for a while and then quietly fizzle out... On the other hand, it is hoped that the majority of companies that introduce Quality Circles will do so from a genuine Theory Y perspective" (pp.31-32).

As Jones (1983, p.102) pointed out, it is unlikely that quality circles would survive in a Theory X environment. However, he considers that there is a case for regarding

(1) Comparing the industrial relations strategy of Britain and of Japan, where quality circles feature prominently, Thurley and Wood (1983, p.212) point out that the Japanese strategy is fundamental for the basis of employee loyalty to the firm and is widely seen in Japan as expression of 'managerialism', that is, corporation growth undertaken for the welfare of employees in general and managerial employees in particular.

quality circles as an outcome of a Theory Y environment, rather than the tool for achieving such a state. Jones maintains that the quality circle approach calls for "significant shifts in management attitudes which for a variety of reasons - tradition, managerial sub-culture, training, the issue of power and control - will be difficult to bring about in many Western companies. In the West's industrialised system, there seems to be an almost in-built tendency for managers to talk 'Theory Y' but behave according to 'Theory X'" (p.102).

For the purpose of discussion, it is useful to differentiate between levels of management and deal with the research on them separately. Senior management, often the initiators of quality circles, may lack commitment which translates into lack of trust throughout the organisation contributing to the programme's downfall (Johnson, 1985, p.206). Their commitment must be visible and be demonstrated by their providing adequate resources to cover costs incurred by leaders and members attending meetings, the training cost of facilitators, circle leaders and members, and the cost of implementing proposed solutions. To do this adequately, Ingle (1982, p.57) suggests that a comprehensive cost/benefit analysis is essential before introduction so that senior management is aware of the extent of the resource commitment which will be required. Senior management, say Blair and Whitehead (1984, p.22), must also be

committed to a fundamental change away from the top-down management style, allowing instead greater responsiveness to workers, and a reconceptualisation of workers' capabilities and the values of their participation.

In terms of the factors which are thought to hinder the spread of quality circles, Cole and Tachiki (1984, p.420) report lack of top management support and resistance of middle management as the two main problems. Cole and Tachiki's (p.425) analysis suggests that it is not shortage of information about the quality circles which causes lack of support of top management but the credibility of the information, which can be enhanced or discredited as it passes through the organisation's communication network.

Bartlett's (1983, p.12) survey found that in companies where quality circles had failed, there was great uncertainty or scepticism from senior management. Even in those companies where the circles were successful, strongly supportive senior management was the exception rather than the rule. This was further complicated in that "senior management attitudes were not necessarily duplicated at middle management level, where initial attitudes to circles often seemed to be considerably less favourable" (p.12). According to Bartlett, this may occur because having approved the concept of circles, senior management have little further contact with the

operation of the programme and their judgement and competence are neither implicitly nor explicitly scrutinized by the the circles themselves. However, the same is not true for middle managers. Replying to letters in the Harvard Business Review (1985, p.209), Lawler and Mohrman describe a tendency among those at the top of the organisation and those who have task responsibility for circles (facilitators and co-ordinators) to be the most optimistic. In many cases, however, they found that operating managers were more sceptical.

Of all issues which are thought to contribute significantly to quality circle success and failure, that of middle management support is the single factor on which there is almost unanimous agreement. Indeed, the evidence is overwhelming. While this topic will be explored in further detail later, the following section reviews existing research in this area.

Dale and Hayward's (1984a, p.26) study found that lack of co-operation from middle management was the most common reason for failure of quality circle programmes, and a frequently quoted reason for the failure of individual circles (pp.33, 34). Facilitators interviewed by Dale and Barlow (1984, p.26) believed that the greatest resistance to quality circles came from middle management. Bradley and Hill (1983) found that middle

managers who are directly involved in circle activity "play a considerable part in determining their success or failure" (p.304). In interviews with 65 managers from both the American and British companies, two-thirds agreed that the creation of quality circles may have reflected on their competence. Their response to this perceived threat was to attempt to influence circles so as to minimise adverse effects which, in turn, created tension between managers and quality circle members. Bartlett (1983, p.13) considers that the alienated middle manager may not be a problem of great significance in the early stages of a circle programme when enthusiasm is high, but becomes of crucial importance as the enthusiasm begins to flag... "if he remains alienated, he will quietly and with satisfaction watch circles die" (p.13).

Barra (1983) describes "the frozen layer... composed of traditional (autocratic) managers who believe in their style of management and feel threatened by the quality circle process, which contradicts their philosophy and establishes the participatory (people-oriented) management philosophy" (p.107). Initially, this frozen layer is not a critical factor because circles are protected by supportive managers. However, as circles begin to succeed, these traditional managers' resistance will begin to surface in the form of disinvolvement, criticisms and subtle behaviours. Cole (1983, p.30) similarly describes how middle managers respond to the

threat by seizing potential weak points involving circles, such as loss of operating time, useless meetings, disruption of normal routine and higher administrative costs. In other articles, Cole describes further how the resistance of middle managers has manifested itself. For example (Cole, 1980b, p.40), in one plant, the facilitator found to his astonishment that his best circle leader was transferred to an area with a supervisor hostile to quality circles. When he questioned the transfer, he was told that quality circle considerations would not be taken into account. In another instance (Cole, 1980a, p.32), middle managers refused to co-operate with the facilitator in providing her with the information she needed to report on progress to the manufacturing manager. The middle managers felt that the information in the reports made it look as though they were not doing their job and that the reports were a way of checking up on them.

A similar set of circumstances is discussed by Bartlett (1983). The threat to middle managers arises because "it is his problems that Circles are tackling...without any direction or control on his part and in circumstances in which he may not even know what they are doing until they reach the reporting stage" (p.12). The reason which Bartlett (p.27) identifies is the insecurity experienced by middle managers which is increased by what they see as a parallel hierarchy of circle leaders and facilitators,

which is not accountable to them and has privileged access to top management through project presentations. Hill (1986, p.30) also suggests a number of possible explanations for middle management alienation; the quality circle programme may have been insufficiently explained, or worse, imposed on them unilaterally by those at the top. Alternatively, middle managers may perceive quality circles as yet another responsibility and drain on resources already stretched to the limit. They may respond by killing circles off prematurely.

Many commentators have identified the failure to involve middle management in the introduction of quality circles as a contributor to the negative attitude they subsequently develop. It is also possible that middle managers are bypassed at this stage because those directly involved in the quality circles suspect, on the basis of past experience, that they cannot rely on middle managers to provide support for innovations of this type. It is apparent from the literature on participation that middle managers frequently resist or obstruct attempts to create a more participative environment (often with good cause), and the expectations of those involved in promoting participation may make them reluctant to involve middle managers.

On the other hand, Mohrman and Novelli (1985, p.100) describe an instance where middle managers initially were

neutral to circles. However, they became disillusioned when, after almost a year of operation, no major cost-savings had been produced through circle suggestions. The department manager was discouraged that the circles had not developed but had allowed ideas and suggestions to die rather than use their energies to take the steps to ensure a satisfactory outcome (p.101).

If lack of information about quality circles and their operation proves to be a major cause of the negative attitude of middle managers then the provision of adequate training could help solve it. This will be explored in the next section. The perception by middle managers that the balance of power has changed due to circle operation will also be discussed fully below.

An alternative explanation for middle management resistance is proposed by Alie (1986), who examines the relationship between personality characteristics of middle managers and their attitudes to quality circles. In their research, Church and Alie (1986) found that middle managers in manufacturing firms "seem to be largely sensers, who prefer to rely on their senses to gather information, are comfortable with the structure of policies, rules and regulations, and prefer to deal with numbers and things" (Alie, 1986, p.13). Middle managers are often promoted to their position because of their technical competence. However, they lack the feeling

orientation and related characteristics which are needed in dealing with quality circles. Alie concludes that "there is some reason to believe that the personality characteristics of middle managers contribute to the complexities of quality circles implementation" (p.15). Incidentally, to overcome middle management resistance, Cole (1980b, p.40) suggests the use of performance appraisal, with success in circle activities as a factor in their performance ratings.

First-line supervisors who are involved in quality circle activity have a crucial role to play as circle leaders. In many ways, the response of supervisors has been similar to that of middle managers but less extreme. In rating why first line management resisted quality circles, facilitators thought the principal reason was the time-wasting potential of quality circles (Dale and Barlow, 1984, p.26). This is caused by difficulties which supervisors experience in trusting workers to act responsibly and tackle work problems constructively, and is exacerbated under pressure to increase production. Supervisors who act as quality circle leaders also find that a great deal of time is taken up in keeping circles alive, arranging meetings, collecting and analysing data, encouraging members and so on (Dale and Barlow, 1984, p.27). Facilitators also detected an underlying fear that members might become better trained through circle activity and that this could have repercussions for

supervisors later on. In a company studied by Dale and Lees (1987, p.81) junior managers who took on the role of circle leaders, did find themselves being upstaged by up-and-coming operatives who proved to have the right qualities for circle leadership, making the junior manager feel inadequate and angry.

Bartlett's (1983, p.15) study of successes and failures found that generally the voluntary principle was ignored in selecting leaders. The choice was made either on personal grounds or because specific departments had already been identified as starting points for circles. It was more usual for successful companies to have used 'gentle persuasion' and companies with unsuccessful programmes to have had management choose the leaders. Klein (1984, p.87) reports on a study of responses of first-line supervisors to employee involvement programmes, most of them quality circles. Most of the supervisors felt that the programme was good for both top management and employees but less beneficial for themselves. The three areas which concerned them were (p.89) job security, job definition and additional work generated by the programme. Even when these issues had been addressed some supervisors remained reluctant to accept the concept of employee involvement. Klein (p.90) identifies five types or categories of supervisors, each of which has its own reasons for opposing participation: Proponents of Theory X, where the concept goes against

their belief system; Status seekers, who fear losing prestige; Sceptics, who doubt the sincerity and support of senior management; Equality seekers, who feel they are being bypassed and left out, and Deal Makers who feel that the programme interferes with their power relationships with workers. Klein regards much of this resistance as understandable and even justifiable:

> "Organisations have placed them in the middle of a no man's land, and most employee involvement programmes have made their position even more precarious. Designed to boost productivity by increasing the participation of workers, these programmes have rarely had the interests and concerns of supervisors in mind. The outcome was predictable: seeing nothing in the programme for themselves, most supervisors resent the loss of power and control, and, in one way or another, fall into a pattern of resistance" (p.95).

(b) Capacity

Managers will be involved with the quality circle programme to varying degrees. In some cases, circles will have little impact on a manager whose only contact with them may be through a general introductory talk or 'appreciation training'. Others with a quality circle in the department will receive minutes of meetings, attend meetings from time to time and will be expected to be present when the circle is reporting on their findings and presenting their recommendations. They may then be asked to decide whether the recommendation can be accepted and, if so, perhaps to find the resources to implement it.

The managers most closely involved with the quality circles are those who act as facilitators and those who are appointed to the Steering Committee. The role of facilitator is one which does not exist in the Japanese model of quality circles but was introduced when circles began in the USA. According to Wood et al (1983, p.40), in Japan the activities performed by the facilitator are undertaken by circle leaders and managers in addition to the normal work. In the USA and UK, most companies appoint one facilitator full-time or a number part-time who co-ordinate the programme. Wood et al (1983) outlines the role of the facilitator thus:

- "to promote and help implement the QC programme
- train QC members
- guide their initial meetings
- solve any problems that arise with the group's functioning
- serve as liaison between the group and staff personnel controlling resources needed by the group" (p.40).

This liaison role is seen by Wood et al as central to the success of the programme. In their view, "the perceived status and authority of facilitators, as well as their interpersonal skills, will be major determinants of how much support line managers and staff experts provide to QC's" (p.40).

The facilitator, whose selection will be crucial to the progress of the circle programme, normally is a member of the Steering Committee and reports directly to top management. Metz (1981, p.75) points out that this

reporting relationship helps to give a more visible indicator of management support for the programme as well as providing more circle co-ordination autonomy for the facilitator. Metz (1982, p.75) warns of the danger of selecting an inappropriate facilitator. This may happen because the Steering Committee do not understand the facilitator's role and may result in the selection of "an individual who is a 'favourite son' of a top manager or who is 'available' (a person the organisation can afford to dump the facilitator role upon)" (p.75). Metz also cautions against the temptation to have only a part-time facilitator..."seriously hampering the ability of this individual to adequately support and assist circles" (p.75).

In Bartlett's (1983, p.18) study, he found that the appointment of a facilitator clearly indicated the level of organisational commitment to the quality circle programme. In the eleven companies where the programme had succeeded, a facilitator had been appointed; in the case of companies with no facilitator, six had failed and two were merely surviving.

The attitude of the facilitator to his task was also significant; where the facilitator was enthusiastic and committed, the programme had succeeded, where the attitude was either "it's part of my job" or "why did it fall on me?", there was a higher chance of failure

(Bartlett, 1983, p.19). The dangers of over-commitment are also mentioned by Bartlett (p.20) who feels that the colleagues of a facilitator may consider his missionary zeal counter-productive. In terms of background, Bartlett found that the area from which a facilitator was chosen had little effect on success. The most influential facilitators were "relatively long service managers who had already established their long-term credibility and were known by a wide spectrum of people in the company... There are clear advantages in having as facilitator someone who is known and trusted at all levels" (p.20).

Dale and Barlow (1984) asked facilitators about their position in the company hierarchy and detected clear signs of role conflict; "seventy-seven per cent of the facilitators agreed that they had to appease all levels in the organisation and not be seen by circles to be part of management and not appear to management always to take the side of circles in potential issues of conflict" (p.23). The full-time facilitators were also clear about the vulnerability of their position if the circle programme collapsed. Mohrman and Novelli (1985, p.99) see in the facilitator's role evidence of what Campbell (1979) refers to as the "trapped administrator" phenomenon. Here a manager who sponsors or becomes closely associated with a circle programme "may be reluctant to allow negative information to emerge if

career interests are tied up with programme success or if short-term pressure might lead to premature programme cancellation" (Mohrman and Novelli, 1985, p.99).

The facilitator plays a key role in the training programme for both quality circle leaders and members. It is normally the facilitator's responsibility to modify the initial training programme, if necessary, and to maintain an ongoing series of training sessions. He also had a major public relations role in keeping non-members informed of the programme's progress. This can be achieved by circle activity sheets and entries in magazines and newsletters.

The Steering Committee, of which the facilitator is a member, has "overall responsibility for the planning, growth and success of a firm's quality circle effort" (Werther, 1982, p.19). The composition of the Steering Committee may vary but normally includes senior managers, representatives of trade unions, where appropriate, and occasionally representatives from middle management and supervisors. The role of the committee members may include helping out with training, publicizing circles to outsiders, attending presentations, allocating resources to support the quality circle programme and evaluating circle proposals for their implementation. The Steering Committee is largely responsible for the establishment of policies for the quality circle programme. The basic

tasks are discussed further by Hutchins (1985, pp.173-181) but can be summarized as:

- Corporate planning and corporate policy evaluation
- Quality Circle programme policies making and review
- Facilitator support
- Publicity and Development

The dangers of rushing the implementation of a quality circle programme are dealt with by Metz (1981, p.74) who feels that key elements, among them the Steering Committee, are not properly dealt with. If members of the Steering Committee are not well informed about quality circle programmes, they may begin to establish improper goals, unrealistic deadlines and change the elements of the programme without recognising the implications of their actions.

The role of the Steering Committee has not been widely researched even though it can be seen to be a significant contribution to the success of the quality circle programme. Cox and Dale's (1985, p.21) survey of quality circle members found that even in companies with steering committees (75 per cent of the sample), circle members were often unaware of the Steering Committee. Cox and Dale consider that the establishment of a Steering Committee on a casual, semi-formal basis without clear terms of reference may have been responsible for this.

Managers who encounter quality circles as a form of direct participation may experience difficulty in dealing with them. Cole and Tachiki (1984, p.420) point out that even sympathetic managers in US companies were unsure how to proceed having agreed to have a quality circle in their area: "quality circles introduce the need for a significantly new management style requiring additional resources and training so middle managers can adjust to their new role" (p.420). Cole and Tachiki (p.420) describe how Japanese subsidiaries in the US have prepared middle managers for quality circles with a lengthy period of quality training, instilling quality consciousness and familiarizing them with their new organisational role. This, they say, means that top management works through middle management in the implementation of quality circles and "allows for ironing out problems associated with allocating scarce resources - such as time, staff, money and space - to support quality circle activities" (p.420).

Bruck (1981), among others, makes a similar point:

> "Middle managers have spent their working lives polishing the skills required for survival in hierarchical organisations. The principles inherent in the quality-of-work life concept can make their jobs better in the long run - but not until they've acquired a new set of skills for dealing collaboratively with the people who work for them" (p.73).

The management awareness seminar is proposed by Barra (1983, p.108) as a solution to this problem. Here managers with varying degrees of familiarity with quality circles attend a half-day session allowing them to raise any questions they have, discuss the problem-solving process used by quality circles and go through a case study from a circle. According to Barra, "those traditional managers whose initial resistance was caused by a lack of understanding are generally the first to be won over by the circles. These people have a readiness to change and just need some basic knowledge to make a decision. Those managers who felt they have other priorities that were more important than establishing and supporting circles began to realise their error. They see their peers benefitting by the contribution of circles; higher quality, improved productivity, better morale and reduced absenteeism" (pp.108-9). Mohr and Mohr (1983, p.222) also identify training as an "absolute essential" for middle managers to prevent them experiencing "fear of the unknown". They also suggest that middle managers be encouraged to play the role of coach, a modified form of facilitator, which allows the manager to "learn and practice communication and group dynamics skills, gain knowledge about a part of the organisation that is beyond their area of specialisation, and develop effective meeting and problem-solving skills that can also be applied to improving the performance of their own department" (p.223). Inevitably, many

consultants writing on quality circles consider that training will provide a solution to the problem of lack of middle management support. It seems doubtful if it could be as effective as they suggest.

The difficulties experienced by managers are shared by supervisors: "for many supervisors, the transition from authoritarian rule to one that is based on shared power is difficult, because they are being asked to discard a lifetime of experience and supervisory indoctrination" (Mohr and Mohr, 1983, p.224). While experience of quality circles can help to lessen the distrust of supervisors, training in circle leadership can also be of benefit.

Traning courses for circle leaders are readily available (Robson, 1982; Hutchins, 1985) and normally cover both the technical skills which circles use to identify and analyse problems, collect relevant data and the leadership skills needed to chair meetings and co-ordinate a group. It is usual for circle leaders, when fully trained, to train circle members, often with the assistance of the facilitator.

The limitations of training as a solution to the supervisor's difficulties are identified by Klein (1984) who, while advocating classroom training as an indispensable first step, points out that it is not

enough. The supervisors in her sample complained that they got no support from their superiors when problems arose and found no change to the support or reward structure: "when they walk out of a training session, they walk right back into the lion's den" (p.92).

(c) Power

The concept of management power and its place in the determinants of participation will be dealt with in four sections: control of resources, problems of evaluation, effects on decision-making, and the question of rewards.

The initial decision to implement a quality circle programme will rest with the senior management of the organisation. As the programme progresses, it will need continuous support, financial and otherwise, if it is to develop and become established within the organisation. Robson (1982, pp.67-70) identifies five main areas of resource commitment which must be considered: provision of external consulting assistance, commitment of senior management time, provision of steering committee and facilitator, allocation of time for leaders and members to hold meetings, and costs incurred in the implementation of solutions. While he gives considerable emphasis to the importance of these issues, Robson points out that the biggest single worry that staff have when starting a programme relates not to financial cost but to commitment. Hill (1986, p.27) agrees that the attitude

of senior management is most clearly seen in their willingness to allocate resources by way of finance, time, accommodation and so on. From research in the US, Rieker (1980) concludes the higher the level of management support, the greater the amount of attention, budget and time the programme will receive. Similarly, Gibson (1981) found that lack of ongoing management support, as shown in lack of resource commitment, detracted from the success of the circle programme.

According to Patchin (1982), the basic problem when budgeting for quality circle implementation in the US lies in not realizing the importance of creating an adequate supporting budget. As Patchin sees it, too many organisations are attempting to start poorly funded circles with a "driving motivation...to produce as much as possible for as little as possible" (p.13). Some of the consequences of this lack of funding for initiating and sustaining circles are having a facilitator who may be inadequately trained, not having the necessary consultant advice, being unable to reward circle members, and failing to provide facilitators and others with the continuing training and development needed. There is also, according to Patchin, evidence that few US organisations have developed a budget for implementing circles' proposals which becomes critical when well-established circles begin to develop sophisticated and expensive suggestions.

Questions of cost and resource allocation are inevitably linked to the issue of evaluation of benefits. Klein (1981, p.16) suggests that successful quality circle programmes tend to overstate the benefits while underplaying the real costs. Jones (1983) agrees: "too often, it appears, managers fail to ask questions about anticipated returns - questions which they would certainly ask of other forms of investment...it is surely appropriate for managers to ask what the programme will cost; how it ranks as one of a range of alternative human resource investment opportunities; and what the benefits of the programme will be" (p.98). Jones dismisses arguments that because some outcomes are behavioural, they are unquantifiable. Neither does he accept arguments that certain outcomes are too hypothetical to be included, for example, labour turnover. Jones (p.98) argues that if a realistic objective of X% reduction in absenteeism is set, a money value can be introduced which gives a better basis for acceptance or rejection of the programme as a form of investment.

Jones (p.98) is sceptical of claims made by companies of huge costs savings and suggests some grounds for treating these cautiously; first, where companies have not carried out a systematic analysis of the anticipated costs and benefits, faith in alledged claims of savings should be treated carefully; secondly, those evaluating the

programme are likely to be behaviourally-minded and unlikely to possess the necessary accounting skills to assess the real cost savings and rely on "guesstimates;" thirdly, and more importantly, there is a tendency for managers to focus on short-term cost-savings while failing to consider costs to come. Jones cites an instance where a quality circle suggestion led to a modified production process and initial savings. However, the modification was directly responsible for a faulty product and was an expensive mistake, both in financial terms and in terms of the company's reputation.

The need to evaluate quality circles is also argued by Wood et al (1983, pp.49-51) as a way of avoiding faddism. They consider that proper evaluation research would establish realistic expectations for quality circles and help prevent the adoption-disappointment-discontinuation cycle which is characteristic of managerial fads. Wood et al (p.51) go on to describe two major problems which must be confronted when evaluating quality circle programmes; the variation in effects over time for the same criterion, and the variation in the timing of effects for different criteria. To overcome these, they suggest the use of before-and-after measures of multiple indicators plus the use of non-participating control groups.

According to Cole (1982, p.194), the Japanese are uninterested in formal evaluation and measurement systems and, when pressed for evidence for the success of the quality circle programmes, are unable to provide it. Their responses tend to rest on intuitive evaluations. American advocates of participatory work practices, on the other hand, reject these and "give primacy to the ethic of rationality at the expense of intuition, impulse, faith and tradition. Measurement establishes an organisation as appropriate, rational, and modern. Its use displays responsibility and avoids claims of negligence" (Cole, 1982, p.197). Moreover, Cole doubts that a "true" evaluation of results is possible:

> "the ambiguity of goals and technology of participative work practices means that all participants in an evaluation effort will interpret the multitude of "facts" they have available to them in a variety of ways, depending on their social position and values...the objective reality allows for a variety of interpretations, and these interpretations may be just as important or more important than the objective reality" (p.197).

Evaluation studies, too, may cause delays, and inhibit the adoption and diffusion process, create "noise", and unnecessarily complicate the decision-making process by which management makes adoption decisions. Measurement, says Cole (p.199), in turn, has a strong tendency to turn into a punitive control system that discourages risk and innovation, and can be used by a suspicious management as a 'terrorist tactic'. Rieker adds an additional perspective:

> "it seems to be considered a weakness in the United States if we cannot apply some scientific measurement to the involvement, such as QC circles. Yet it appears quite acceptable to invest in professional or managerial personnel by providing training or sending them to 'charm school' at Stanford, Harvard, Yale...without being required to provide scientific proof of return on investment". (Rieker and Sullivan, 1981, p.29).

Even in cases where an independent evaluation of a pilot programme of new work structures indicates success, ardent sceptics may not be won over (Walton, 1977, p.225).

While senior managers may be willing to provide the necessary resources to initiate and support the quality circle programme, it is frequently those at lower levels who are directly affected in its operation. The change in the balance of power brought about by quality circles was discussed above, as was the impact of management attitude on the success of quality circles. In most organisations, managers at all levels exert more expert power than non-managers because they control the flow of information which is needed for decision-making. The introduction of quality circles may require that managers are asked to release information which before was confidential. Similarly, quality circles represent an alternative channel of information which may result in the manager being by-passed, for example, if the manager of a department in which there is a quality circle finds that the circle is using the facilitator or another

'expert' to provide them with data which before came directly and exclusively to him. If managers do not readily release information or place overly tight restrictions on the information which quality circles need, the circles, according to Dale and Hayward (1984b, p.12) may encounter difficulties in solving their problems, which could lead to their eventual failure.

Senior managers generally are the initiators of quality circles and, as mentioned above, are often enthusiastic supporters. However, the operational responsibility for quality circles frequently rests with middle managers and supervisors. To Cole and Tachiki (1984), this represents one of the paradoxes of the circle process: "while it falls on middle managers to share some of their decision-making functions with workers, it leaves the structure of top management intact so that middle managers often do not participate in decision-making by the former regarding quality circles" (p.420).

According to some managers, says Cole (1983), "circles are becoming a symbol for weak management" (p.53), although he considers that these attacks on quality circles have been used to side-step the real issue of sharing of power and decentralisation of decision-making.

Lawler and Mohrman (1985) describe a related but different aspect of the middle manager's dilemma:

"because of the time and resources invested in the programme, and because middle managers know that the programme will lose its momentum if they don't accept the ideas, managers feel a great deal of pressure to accept the initial suggestions. In fact, we have even seen situations in which top management has ordered middle management to accept all initial suggestions" (p.68). Middle managers do not respond positively in these circumstances and become even less willing to receive subsequent suggestions positively. The quality circle, finding that nothing has happened, becomes discouraged, feeling the programme is a waste of time and a management trick.

Loss of power caused by quality circles is also experienced by supervisors (Klein, 1984, p.93). Klein considers that managers should delegate to supervisors increased responsibility for quality circles along with appropriate authority and not merely give supervisors additional paperwork or other administrative tasks. This increase in authority would allow supervisors to regain their self-respect and prestige and allow them to act on employee requests and provide necessary support without having to function as a go-between.

Specialists, for example in the quality control area, often respond negatively to attempts to widen responsibility for quality. A specialist, when asked by

a circle for advice, may be tempted to solve the problem for them either because he cannot resist the temptation or because he feels that if the circle solves the problem, it will make him look bad (Dewar, 1980). This can make the members resentful and lead to breakup. Brown (1982) describes a situation in which a circle failed because the projects it undertook and solutions it developed were consistently pre-empted by the Production Engineering Department before the circle had time to prepare the management presentation.

The final issue for discussion under management power concerns the question of how quality circle leaders and members are rewarded. In contrast with Japan, where circle members receive no financial reward for participating in circles, European and American workers are sometimes reluctant to contribute their energy and suggestions without some financial recognition. Cole (1980b, p.32) points out that for Japanese workers with the assurance of life-time employment, circle activity is seen as just one of many contributions which the worker makes to the organisation which is recognised over the long term in promotion or wage increases. Juran (1967) also mentions an indirect effect for Japanese workers in circles - "the results of a successful project improve the company's profit, and thereby the employee bonuses which are commonly geared to company profits by one formula for all employees" (p.334). The special

relationship between worker and company in Japan is also considered by Jones (1983, p.97), for example, the company provides wide-ranging benefits, housing, hospital care and educational facilities which act as a powerful trade-off for contributions to the company through circle activity.

Jones (1983, p.97) is one of a number of commentators who believe that unless a balance between intrinsic and extrinsic reward is developed it is difficult to see how, in the longer term, circles can succeed in the West. As Miskin and Gmelch (1985) comment: "it is often not the presence of rewards that sustains team members interest; rather it is their absence that leads to diminishing team vitality" (p.129).

Few writers oppose the use of 'symbolic' rewards to quality circle members, for example, diaries, notebooks, badges, printed T-shirts, tiepins and so on. These according to Cole (1980a) are not ways of buying workers off through cheap gimmicks for recognition, but ways of "recognising their dignity as individuals and their ability to make meaningful contribution to their organisation" (p.39). Another obvious source of 'reward' to circles is the provision of resources as described above, that is, facilities for meetings, paid time off for weekly or fortnightly meetings, adequate facilitation and training, provision of equipment, opportunities to

attend conferences and visit other companies on quality circle matters.

In their research in the UK with facilitators, Cox and Dale (1984, p.24) found that eighty-five per cent of the facilitators felt that financial rewards were alien to the philosophy of quality circles. The facilitators felt that not only would deciding who to pay be extremely difficult, but also deciding how to pay. Payment to circles would increase the dangers of creating an elite, and exacerbate feelings of resentment and jealousy among non-members. Also, managers might have to decide what to do about rewarding specialists who gave the circle advice. Klein (1981) attributes management's reluctance to pay for circle activity as part of a general attitude: "we are already paying these people enough, possibly too much, as it is. Therefore, they should feel some obligation to offer their ideas for improving the productivity and competitive position of the company without further reward" (p.14).

While this issue remains unresolved, some companies have side-stepped it by allowing quality circles to put their proposal for cost savings or improvements into the company's suggestion scheme, making it eligible for a reward. This, according to Ohmae (1981, p.2-33) is not uncommon in Japan where improvement ideas which originated in quality circles are processed through the

suggestion scheme. Jones (1983, p.97) suggests a scheme for the redistribution of the financial reward where projects agreed on by the members can be supported, for example, provision of creche facilities, improved leisure programmes, sponsored education. To Jones the truth is simple:

> "in the Western industrial setting, mere recognition is not an adequate reward for extra performance. If managements fail to seize on this fact, worker scepticism, accusations of exploitation and resistance to the whole idea of quality circles will surely grow" (p.97).

CHAPTER 6

6.1 Aims of the Research

The purpose of the research was to investigate the operation of quality circles in a range of organisations and record the perceptions of those affected, either directly or indirectly, by them. It was not an attempt to quantify the costs and benefits of quality circles; instead, the research aimed to understand the processual issues which arose when a programme such as quality circles was introduced into an organisation and to identify the factors which affected institutionalisation of quality circles.

Of particular interest was the role played by management, both those closely involved as facilitators or co-ordinators of the quality circles, and those who had little direct contact with the circles. The intention was to follow the progress of the quality circles over a period of two or three years and interview managers periodically to record their views. As the research progressed, it became apparent that middle managers were an important group to investigate more fully, and in the later stages of the research, there was a focus on their role in the long-term success of circles.

6.2 Background to the Research Methodology

Quality circles have been extensively investigated by a number of researchers, but while there is a wealth of data and opinion, most of it is descriptive or prescriptive, providing little more than an anecdotal account of a particular

programme. The research undertaken in the UK is largely based on survey questionnaires whose reliability and validity are questionable. Other studies are either in-company investigations or reports by consultants which could be open to bias.

As with all research, a range of research designs is available, each having advantages and disadvantages. An experimental method was not considered appropriate for this research as the subject of study was not the simple identification of causes of failure but the in-depth investigation of the organisational processes involved in operating a quality circle programme; the study was less concerned with the identification and measurement of costs and benefits and more with the extent to which those involved considered that the quality circles had produced benefits which were of any significant value to them, and what they felt the real costs had been, not just the quantifiable costs. As was pointed out earlier, a preoccupation with quantifiable evaluation can lead one to overlook more important variables (such as management attitude) which may have a significant effect on the progress of the circles.

Nevertheless, the research aim was to follow the introduction of quality circles in five organisations to ascertain how they had been perceived by members of the organisations. This type of research calls for an approach which allows significant people and events to be described, and also permits generalization.

Weiss and Rein (1970, p.104) identify an alternative methodology to the experimental design for evaluating programmes of this nature. Its characteristics are, first process-oriented qualitative research, which emphasises the type of data to be collected, second, historical research which emphasises the method's concern with the development of events through time, and third, case study or comparative research, which emphasises the use of a simple case or small set of cases as a basis for generalizations to a larger class.

The potential conceptual frameworks identified by Weiss and Rein (p.105) for historical descriptions include systems theory, dramaturgic unfolding and the interaction of political forces. These frameworks guide attention to the events which should be recorded, the questions which should be answered and the connections which should be demonstrated. Systems Theory suggests what events or phenomena should be included which "offer the research worker a guide to balancing his desire to learn about everything and his resource limitations. It suggests that the research worker focus his attention on the smallest set of interacting groups and individuals that will account for most of what happens and most of what determines what happens" (p.105). In dramaturgic unfolding, according to Weiss and Rein, "the basic strategy is to construct a story about actors who engage in coalitions and conflicts and whose interactions form plots and subplots moving to a resolution"; this approach resembles that of "methodological individualism" where events are explained by analyzing the actions of individuals within situations.

Finally, the interaction of political forces is useful when the task is to describe a connected series of events. The attention of the researcher is directed to conflicts and coalitions "where the actors are perceived as representing interest groups, and then actions are interpreted as expressing a strategy" (p.106).

Throughout the research, a naturalistic method was favoured. At times, it appeared that an ethnographic approach would be productive, as the qualitative data it creates are ecologically valid and less prone to reactivity. However, ethnographic approaches are less appropriate for studying past events (Hammersley and Atkinson, 1983, p.237), and much of the data under investigation were historical. In addition, there was a limited time available to gather the data and ethnographic research needs at least one year of intensive personal observation (Sanday, 1979, p.527).

In the final research design, a case study approach was adopted where a series of informal interviews was held with managers and others who were involved with the quality circles to ascertain their perceptions of the quality circles and to gather data on their behaviour towards them. Such an approach allows the researcher to ask for information about events in the past and the present. The respondent can be asked for opinions as well as facts and these opinions can be explored in greater depth. Questionnaires were rejected as the major method of data collection, as it was felt that since sensitive

material was being gathered, it was more likely that the focussed interview would build up the rapport and trust that were needed than a survey form with a covering letter could. Essentially, in the interviews, the manager or managers were being asked to give their views without any fear of them being recognised or identified. In many cases, they were reflecting on the motives and behaviour of their superiors and colleagues. Disclosure of this kind will occur only when a trusting relationship is established.

6.3 Data Collection

Weiss and Rein (1970, p.107) identify three sources of data for historical studies: interviews, observation of events and documents. Interviews are employed to gather data on the aims of individuals and groups, their perceptions of the aims and behaviours of others and their perceptions and interpretations of events which the investigator may not have witnessed. Observation gives the researcher information about the emergence of coalitions and conflicts, significant events and provides first-hand experience of the contexts in which events are taking place. Documents give detail on events and provide a means of establishing the sequence of events.

(i) Interviewing

In this research, the shortcomings of interviewing as the major method of data collection were considered to be outweighed by its advantages. As many researchers have pointed out, informal interviews can be natural and

conversational, once rapport is established. The exchange of ideas between interviewer and interviewee allows each to develop his views and can introduce points to the researcher which had not previously been thought of. The depth of insight available to the interviewer is not possible to attain by any other method of data collection. Combining this approach with an element of steering provides both flexibility and thoroughness.

On the other hand, Dean et al (1967, p.276) describe three sources of distortion arising from the interview. Firstly, the interviewees may give socially acceptable answers and modify attitudes or feelings. Second, the interviewer may unconsciously select those responses which reinforce his own assumptions and ignore data which conflict with his pre-determined model. Thirdly, errors may occur when the interviewer is writing up the interview notes, or coding the interview data.

Van Maanen (1979, pp.544-546) deals with the ways in which data, both interview and observational, may be misleading. First, people may lie, evade or otherwise mislead the researcher, particularly about things which matter most to them. Secondly, the informants may themselves be misled and give wrong information to the researcher. Thirdly, the informants may be totally unaware of certain aspects underlying their own activities. To cope with these potential sources of

unreliable data is a formidable task for any researcher moving from his own world to a different one, although awareness of the problem combined with constant self-control can help.

The choice of respondents was initially determined in discussion with the facilitator, although at Ethicon other managers were approached directly to request an interview. Though a process of 'snowball sampling', the interviewees were chosen to reflect social divisions within the company and represent a range of perspectives on management's role in quality circles and on the circle programme generally. Van Maanen's (1979) observation was used as a guide:

> "It seems universally true that the secrets of one group are revealed most readily by members of another group" (p.545).

The decisions on in-company sampling of respondents were made as the field-work progressed in accordance with the recurrent process of theoretical sampling.

Throughout the data collection period, open-ended non-directive interviewing was favoured, allowing the interviewees to talk at length, in their own terms, with few questions interposed. The aim was to facilitate the open expression of the informants' true perceptions of the quality circles. In this way, it was hoped that reactivity, that is, the effect that the researcher's

presence and line of questioning might have on the respondents, would be minimized. However, the interviews sometimes demanded an element of 'steering', where specific directive questions were more appropriate (see Whyte, 1953, pp.16-17). (The questions shown in Appendix I give some guide to the areas covered in the interviews with managers).

The aim was to identify the respondent's attitudes, motives and behaviour towards quality circles by encouraging free expression of ideas. Interviews were mostly one-to-one and lasted between one and two hours. In many cases, the respondents were interviewed on a number of occasions to provide follow-up and longitudinal data; in the case of Ethicon, a time-span of three years was covered, during which time the circle programme ceased operation.

Where feasible, a group depth interview or focus group interview (see Hari Das, 1983, p.308) was conducted, particularly in the early stages of the data gathering. These interviews provided a wealth of information when the group contained representatives from different areas, for example, a manager/facilitator, quality circle leader and a middle manager/foreman. However, while group depth interviews were used when possible, too often they proved impracticable.

Since often sensitive information was being sought in the interview, tape-recording was not employed. While some detail may have been lost, it was considered more likely that the presence of a tape-recorder would seriously have jeopardized the willingness of some respondents to be interviewed, and the reliability and validity of the data.

Notes were jotted down throughout the interview, as unobtrusively as possible. These field notes were then written up in greater detail within a day of the interview. As with Atkinson (1976, p.25), it was found that a great deal could be remembered and reconstructed from a few words or rough diagrams. Those familiar with in-depth interviewing will also be aware of the characteristic lengthy pauses which can be usefully employed as detailed note-writing periods. Phone calls and numerous other interruptions served this purpose also.

(ii) Questionnaire Survey

While the depth interviews were the primary method of data collection, a questionnaire survey of circle leaders and members in Ethicon was conducted in the third and final phase of the fieldwork. An initial reluctance to employ large-scale surveys as the principal data collection instrument was influenced by previous experiences as an undergraduate and a post-graduate

candidate for an MSc award where the limitations of this technique were exposed. These points have been touched upon above in the context of attitude surveys and are reiterated by others, for example, Marchington (1980):

> "questionnaires on their own provide little feeling for the substance of the workplace. Behaviour of key actors in the system needs to be analyzed in order to see the way in which they come to terms with the issues which arise from their involvement" (p.38),

and Van Maanen (1979):

> "The overwhelming role played by the survey instrument in organisational research has led some observers to suggest that the field is becoming simply the study of verbally expressed sentiments and beliefs, rather than the study of conduct" (p.522).

Nevertheless, as proposed by Webb et al (1966) the combining of data collection methods was employed on the basis that "no research method is without bias. Interviews and questionnaires must be supplemented by methods testing the same social science variables but having different methodological weaknesses"(p.1). Sieber (1973) concurs; "if each technique has an inherent weakness it also has an initial strength unmatched by other techniques" (p.1337). Nonetheless, the use of between-methods triangulation does not allow one method to remedy the weaknesses of another. As Atkinson (1979) points out, "the methods rely on different assumptions ... we should not assume, therefore, that contrasting methods can be combined in a simple additive way" (p.74).

There were two additional reasons for the inclusion of a survey in the research. First, there was a possibility of "elite bias" in the selection of respondents. This had occurred for many of the reasons outlined by Sieber (1973, p.1352), and because managers were the focus of the research. Second, little was known of the views of quality circle members. They had not been so central to the research issue and were such a large group that for a one-man band, interviewing seemed unrealistic. When the survey questionnaire was developed, the circles at Ethicon were defunct and those responsible for them did not think it possible to reconvene them. A questionnaire survey seemed the only feasible means of gathering data from ex-members.

In addition to this survey, as part of my teaching work in 1982-83 I had supervised a BA (Hons) Business Studies student who undertook a survey of all past and present quality circle leaders in Ethicon; these results are included (Alexander, 1983), where appropriate.

(iii) Observation

Unfortunately, opportunities for non-participant observation were limited in the research. However, when a circle meeting was attended by a manager, the circle leader's and members' reactions to and behaviour towards him were observed. These occasions were very useful, especially when the manager could be interviewed later,

as they illustrated aspects of the manager's interaction with the operational side of the circles.

(iv) Unobtrusive Measures

Each company had its own way of disseminating information to the general workforce about the quality circle programme. In cases where, as at National Semi-Conductors, a company notice board was used, it was inspected on each visit to see if the information was up-to-date. Most of the companies also had an in-house journal where some progress reports on the quality circles were presented. Where possible, copies of the journal/newspaper were examined to ascertain whether circles were still regarded as newsworthy.

Other measures could have been taken (for example, the booking system for the quality circle room) but they would not have provided any information specifically about management's role, merely about circles themselves.

(v) Documentary Sources

Another form of unobtrusive measures is represented by documentary sources, which are prepared by the company for their own purposes. During the research period, each company had kept records of the quality circle programmes and when possible, copies were obtained. In Phase Three of the research, concentrating on Ethicon, a range of documents were received which proved useful. Copies of

the company journal, Tie-line, which contained information about quality circles were examined, particularly those articles solicited from middle and line managers. Speeches and presentations to outside bodies and other companies were made available, as were the manuals used in the training of all those involved as facilitators, quality circle leaders or quality circle members.

Those running the quality circle programme in Ethicon, the Quality Circle Development Committee (QCDC) met monthly to discuss progress. The minutes of this committee were available which allowed a check on the management of the circles. The QCDC was composed of all facilitators, the co-ordinator, and representatives from middle management with occasional meetings attended by others invited for a specific reason. This group also prepared or approved interim reports on progress and annual reviews. They also spearheaded the campaign at Ethicon to revive the circles.

6.4 Overview of Fieldwork

Data collection began in September 1983 and extended, with some interruption, until June 1986. Three broad phases are suggested by Strauss et al (1963) in the development of fieldwork.

(i) The initial phase: where the researcher, guided by broadly defined research interests, collects data in an attempt to try out a wide range of possible ideas and lines of inquiry.

(ii) The second phase: where significant classes of events and people begin to emerge and ideas begin to come into focus. Working hypotheses are developed.

(iii) The third phase: the testing of a restricted number of hypotheses is undertaken.

The phases of fieldwork in this research are summarized in Table 6.1.

(i) Phase 1(a) and (b): September 1983 - December 1983
During this phase 16 organisations in the central belt of Scotland were contacted by phone to ascertain if a quality circle programme existed or was proposed. Following these contacts, ten organisations were visited where the facilitator or co-ordinator of the circle programme was interviewed. The intention at this point was to gather preliminary data from them and to try out possible ideas and lines of inquiry. As suggested by Lofland (1971), throughout this phase, the role of the 'acceptable incompetent' was adopted, that of a naive investigator attempting to assimilate the perspectives of the facilitators and co-ordinators mainly by asking questions, listening and observing.

Table 6.1 Fieldwork Timetable: September 1983 - June 1986

	Dates	Number of Participating Organisations	Data Collection Techniques	Respondents
Phase 1(a)	September 1983	16	Telephone Interviews	Facilitators
1(b)	October - December 1983	10	One-to-one Interviews	Facilitators
Phase 2	October 1984 - March 1985	5	Interviews : One-to-one, and group	Facilitators Managers QC Leaders QCDC Members
			Non-participant observation	QC Meetings
MATERNITY LEAVE APRIL 1985 - JANUARY 1986				
Phase 3	February 1986 - June 1986	1	Interviews - mainly one-to-one	Managers QCDC Members Facilitators QC Leaders Foremen
			Survey	QC Members QC Leaders

(ii) Phase 2: October 1984 - March 1985

In this phase, five of the ten organisations were revisited on a number of occasions and the range of interviewees was extended to significant classes of respondents who had emerged from the previous phase of research. At this point, the issue of management support for quality circles became the focal point of the research, with middle management of particular interest.

(iii)Phase 3: February 1986 - June 1986

At this point, return visits were made to Ethicon, one of the five organisations from the second phase, whose quality circle programme had terminated the previous year. Facilitators, managers, foremen and quality circle leaders were interviewed and a questionnaire survey among ex-quality circle members and leaders was conducted. This organisation offered a range of perspectives on the factors which contributed to the failure of a quality circle programme. In the previous phases, a good relationship with a number of people there had been established which then proved useful. Finally, the fieldwork results were compared with results gathered in 1982 by another researcher in the same organisation, and by myself and others in different organisations. The comparative method, if used in this way, can provide "a valuable antidote to premature generalization" (Atkinson, 1979, p.57).

6.5 Sampling

(i) Casing

According to Weiss and Rein (1970), in case research, "the sampling problem is to select one instance from which it will be possible to generalize to a significant proportion of the class of instances, if not the class as a whole" (p.106). For comparative research, the aim is to learn about different structures within a class - the sample therefore should represent the important varieties within the class.

In the present research, the population from which the sample was drawn was all organisations in the Central belt of Scotland who were known to be involved with quality circles, either running a programme or intending to adopt one. In phase one of the research, through contacts with sixteen companies known to be involved with quality circles, ten were identified who were willing to co-operate and had some first hand experience of circles. At this stage, facilitators or co-ordinators were the contacts and these people acted as 'gate keepers', that is, the principal point of entry and access to the organisations. In dealing with them at the early stages of the research, a simple case was presented, outlining an interest in quality circles and a wish to come along to the company and speak to someone who was, or had been responsible for running the quality circle programme. Of the original sixteen, six were not followed up for a variety of reasons. In one instance, Weir Pumps, a large scale redundancy programme had coincided with the planned launch of the circles and it was considered inappropriate to go ahead. Another two had looked into the feasibility of introducing circles but had decided not to proceed because of other initiatives. Three others had launched circles in a small way but were unable to find a suitable time to visit; repeated calls to them had no effect.

Of the remaining ten companies, it was apparent that five, while willing to co-operate, were unsuitable.

Cameron Iron Works, Livingston, and Marconi, Donibristle, had ceased to operate circles. Visits to both companies were useful in developing an understanding of the factors which might contribute to circle failure. Two companies, Scottish and Newcastle Breweries, Beer Production, and Ferranti plc, had attempted to launch quality circles, but without success. However, these two were re-visited at a later stage to check on developments and both the Edinburgh and Newcastle sites of Scottish and Newcastle plc were visited to speak to the person responsible for circles. The fifth, Hughes Aerospace, Glenrothes, had not launched circles but presented an interesting alternative quality education programme.

During this period, it was hoped that contact would be developed with a range of organisations which varied significantly in a number of ways. This would allow, as Atkinson (1979, p.54) suggests, maximization of differences among companies and should yield a wide range of data about the operation of quality circles and management's role. The aim was also to focus on issues relating to the part played by managers in specific areas, for example, project selection, so that a great deal of information on a restricted set of data could be gathered. However, this proved more difficult than expected. When the five companies who were willing to co-operate with the research were reviewed, they were strikingly similar on significant variables.

This process of casing, then, yielded a sample of five companies which met the objectives outlined by Schatzman and Strauss (1973, p.19):

(a) Suitability : each company was operating a quality circle programme at the time of initial contact. Programmes had been in existence for not less than one year.

(b) Feasibility : the companies were all within a reasonable distance allowing regular visits over the period of data collection.

(c) Tactics : Preliminary contacts with each company demonstrated that they were well disposed to research and could be relied on to participate in the longer term.

While it was decided to proceed with the data gathering in the five organisations, it was with some misgivings since the sample was composed of five similar organisations. The absence of trade unions in all five may have been significant, as could the feature of American-ownership in four of the five. These features may also have increased the likelihood that these organisations were more sympathetic to research, and more willing to co-operate, making the sample unrepresentative.

Having exhausted the population, there was little alternative but to proceed with the sample of organisation which was available, while all the time, accepting that they were atypical of industry generally. This, however, did not mean they were atypical of organisations who felt quality circles were appropriate to them. When reviewing the data, these points are taken into account.

(ii) The Companies

Five companies comprised the final sample, two in the East of Scotland, Ethicon, based at Sighthill, Edinburgh and Hewlett Packard, at South Queensferry, and three in the West, IBM and National Semi-Conductors both at Greenock and Prestwick Circuits in Ayr. In phases one and two of the research, all five were visited on a number of occasions. Phase three concerned data collection only in Ethicon which offered the most appropriate setting to investigate the concepts which had emerged from the preceding fieldwork.

Four of the five companies were American-owned and the fifth, Prestwick Circuits adopted an informal style of management more typical of American companies. Four of the five were in the electronics/ telecommunications field, the fifth, Ethicon was a manufacturer of surgical sutures. None of the five was unionized, although in Ethicon some of the technical staff were trade union

members. The companies varied greatly in size from IBM with about 3,000 employees at Greenock, to Prestwick Circuits with around 400 employees on two sites (mainly at Ayr). The other three companies were fairly similar in size; Ethicon, 1,350 employees on four sites, Hewlett Packard with 1,100 employees mainly on one site and National Semi-Conductors with 1,100 employees on one site.

The quality circle programme generally comprised 5-10% of the workforce with the most popular areas for circles being engineering, manufacturing, production control and stores. Some of the companies had tried to introduce circles into white collar areas, for example, sales, design and marketing, but with limited success. The facilitators, who were from either Personnel (Ethicon, Prestwick Circuits, National Semi-Conductors and Hewlett Packard), or from Quality/Production (IBM) were middle or senior managers. All companies except Ethicon had appointed a full-time facilitator - Ethicon had a co-ordinator and four part-time facilitators. Consultants were used by National Semi-Conductors, Hewlett Packard and Ethicon. IBM had its own Quality Programmes staff and Prestwick Circuits used IBM, Portsmouth to help launch their circles. Generally, a cascade introduction was made where senior managers were the first in the company to hear a presentation, then middle management, followed by supervisors and, if some

support was forthcoming from supervisors, a presentation was made to the workforce. If a reasonable number of supervisors and workers seemed willing, the programme then began with the training of facilitators.

(iii) Access

Since my initial contact with the companies was the facilitators or co-ordinators of the circles, I continued to work through them in developing further lines of inquiry. I presented myself as a lecturer in Business Studies from Napier College who wished to learn more about quality circles in that company. Unless pressed for more information, I did not specify that the research was the topic of a PhD thesis, nor that I was a psychologist, as I felt that neither piece of information would encourage the respondents to be more forthcoming, but might be inhibiting.

The facilitators also acted as gate-keepers and needed to be convinced that the research would not be too disruptive nor prevent people from working normally. Indeed, if anything, they were extremely enthusiastic and, in general, more than willing to allow interviews. However, at IBM Greenock, a request to attend a quality circle meeting was not granted - the co-ordinator explained:

> "You wouldn't be interested in that group. They are not doing anything just now. Anyway the manager (circle leader) is having a bit of a hard time and I'm going along to hold his hand. There wouldn't be anything for you to see".[1]

This gate-keeper, at IBM, more than any other, engaged in impression management. On the first visit, he gave his standard introduction to the management of quality at IBM. He had invited a number of people along at 15 minute intervals and remained throughout the rather stilted 'interviews'. On subsequent visits, more focussed interviews were carried out for longer periods.

6.6 Data Analysis

As has been pointed out by many researchers, qualitative data produced by interviewing and observation, while attractive, have serious weaknesses. Miles (1979, p.590) considers that the benefits are many: they are rich, whole and real; they preserve chronological flow, they require minimal instrumentation, they lend themselves to the production of serendipitous findings; their results, ranging from case studies to vignettes, have a quality of undeniability. However, the data collection is laborious and stressful, it is demanding for a lone fieldworker, tending to overload the researcher for whom the volume of data can be overwhelming. Most importantly, the disadvantage of qualitative data is that methods of analysis are not well formulated: there are few guidelines for "protection against self-delusion" or ways of avoiding presenting unreliable or invalid conclusions.

1 Interview, 15.2.85

Yin (1981, p.58) takes up the points made by Miles and points out that in fact Miles's discussion is an example of the confusion of types of evidence (qualitative data), types of data collection methods (ethnography) and research strategies (case studies). While recognising that case studies present difficulties to the researcher, Yin suggests that the qualitative data can be analyzed in a number of ways, and problems associated with them reduced. The model of "Building Explanations" (p.61) fits this research into quality circles best. In this instance, an exploratory case study consists of an accurate rendition of the facts of the case, some consideration of alternative explanations of these facts, and, a conclusion based on the simple explanation that appears most congruent with the facts. The research process is analogous to detective work where the detective is aiming to construct an explanation of the crime. He is shown the scene of the crime, its description, eye-witness reports and must judge the relevance of the data in devising his explanation. The adequate explanation becomes a plausible rendition of a motive, opportunity, and method which more fully accounts for the facts than do alternative explantions.

In moving from the single case to other cases, from within-case to cross-case, the detective may be able to use the first explanation to establish that both crimes were committed by the same person. Modification may be necessary to apply the explanations from the first to the second case. This cross-case analysis, says Yin (p.63) is not unlike generalized theory

building and has been used in attempts by researchers to develop models. Where the major goal of the research is cross-case analysis, there is no need for any simple case report but a brief summary of individual cases, followed by the cross-case analysis (p.64).

Nevertheless, qualitative research of the kind employed produces masses of data. As Weiss and Rein (1970, p.107) point out there are no data-reduction techniques for qualitative data, only techniques for organising the data. There is a danger that the researcher might thus become overwhelmed by information. To overcome this, the data in this research on quality circles are first organised to describe what happened in the cases, examples are presented from the data to illustrate the perspectives of those closely involved and those relatively disinterested. The effects of quality circles on organisational systems and processes are also outlined. Three complementary analytical perspectives are then used to allow the data to be interpreted from differing viewpoints, marketing-and-training, systems and interest-group. Interview data, survey results, observations and documents are combined, where appropriate, to appraise the extent to which quality circles affected the organisations and to illustrate the consequences they had, not just for those immediately involved, but also for those in other sections of the organisations. A complementary analysis, using Walker's framework is then developed, and the results of this research compared with recent research in the UK and USA.

6.7 Conclusion

Conducting the research in the three phases as outlined allowed the development of hypotheses from the data themselves. In the earlier phases, the intention was to allow the respondents to talk freely about the quality circles and to articulate their feelings towards the circles. Gradually, the issue of management support began to emerge as a major theme of many interviews, as it had done in previous studies by other researchers.

The final phase of research focussed more closely on management, especially middle management, in an attempt to understand the motives behind their lack of support and to develop models in which this issue could be located. In this way, initially the research attempted to explain-by-understanding the motives and reasons behind the behaviour of the managers.

To some extent, this research employed a similar approach to that known as 'grounded theory', put forward by Glaser and Strauss (1967) where, rather than having to proceed by quantitatively testing hypotheses derived from the work of others, the researcher aims to "discover theory from data". The grounded concepts which emerge from the analysis of the data are used to develop a theoretical understanding of the area under research.

CHAPTER 7

7.1 Background to the Case Studies

The principal case is Ethicon, manufacturers of surgical sutures and needles. The other four cases, IBM, Hewlett-Packard, National Semi-Conductors and Prestwick Circuits are dealt with in less detail, but present a complete account of the quality programme in the organisation.

7.2 Ethicon

7.2.1 Company Background

Ethicon Limited, Edinburgh, is a wholly owned subsidiary of Johnson and Johnson, USA (J&J), manufacturing mainly sutures and needles for the medical profession. From small beginnings in 1915 as G F Merson Ltd, a private company manufacturing surgical sutures, the company merged in 1947 with J&J. As well as manufacturing, packaging and sterilizing catgut, silk and nylon products, the company sold the Ethicon brand of needles and sutures. Since then, the company has grown considerably, adding new plant as well as new product ranges. Ethicon's principal products are needles and sutures in a wide range of sizes for surgical use. A diverse but complementary product range has also been introduced, for example, Proximate*, a mechanical stapler used for closing wounds, Ligaclip*, a metallic clip for control of haemorrhage, Ethibond*, a coated polyester, Ethistrip*, a skin closure tape, and Mersilk* and Mersilene*, silk and uncoated polyester threads respectively

* Trade Names

which retain the original link with the founder, G F Merson. There are many associated Ethicon manufacturing plants in countries throughout the world including Japan, France, Brazil, Germany, Sweden, Italy, Pakistan, India, New Zealand, and Australia. While Ethicon Ltd, Edinburgh is owned by J&J, it is still relatively autonomous in carrying out policies proposed by J&J. The policies are mainly advisory and for information; local management operate as they see appropriate to local circumstances.

The company has about 1,350 employees at the Edinburgh plant, of whom approximately 1,000 are production operators (70/30 : Female/Male) with about 230 employed on shiftwork. About 900, including 50 skilled workers (electricians, plumbers), are job evaluated, while the remaining 450 are staff. The company is not unionized although employees, such as engineers, may be members of their craft union.

There are three manufacturing locations. The Wet Process Plant (Fountainbridge) is where beef and sheep intestine used in the creation of surgical sutures are processed (Salvage, Sliming plus Wet Cutting area, Spinning area, Looping and Hanging area). The main plant at Sighthill, with a smaller unit nearby, deals mainly with the manufacture of high grade needles (Needle Forming, Finishing and Premium Needles areas). The needles and suture material are attached here (Attaching area) and then wound (Winding area). These wound sutures are then enclosed in foil sachets (Foil/Packaging area) and sterilized

using a Cobalt 60 Irradiation System. A third smaller plant, Braiding, in Livingston is where the silk and other threads for sutures are braided for later attachment to needles.

7.2.2 Data Collection : October 1984 - August 1986

My first contacts with Ethicon were in June 1982 when I approached the company to determine the feasibility of carrying out research into the quality circle programme. Initially, I wanted to set up a project for a BA Business Studies student which I could follow-up later on if appropriate. This was achieved successfully. Alexander's results (1983) are included in this chapter.

The period of data collection for this PhD thesis began in October 1984. The previous summer, 1983, I had returned to see the Co-ordinator of the QC programme and ascertain his willingness to take part in more detailed research.

(i) The Interviews

Having formulated my research proposal, I undertook two series of interviews, the first from October 1984 to March 1985, and the second from April 1986 to August 1986. The management at Ethicon were very co-operative and I was at liberty to arrange an interview with anyone I chose. Over the two year period, I visited the company on about sixteen occasions and carried out twenty eight interviews, a total of about 60 hours of interview time. Four people were interviewed on two or more occasions,

the others only once. As outlined in the previous chapter, the people were often interviewed in pairs or in small groups, which helped estabish rapport and allowed the interviewer's role to be more that of an observer than an inquisitor. Where appropriate, interviews were supplemented by observation of a quality circle meeting.

(ii) The Surveys

In May 1986, a survey of all ex-leaders and ex-members of quality circles at Ethicon was undertaken. The purpose of the survey was two-fold: firstly, to learn from the quality circle members what their attitude to management's treatment of quality circles was and secondly, to overcome the elite bias which might have occurred if quality circle leaders and managers only had been consulted.

The main questionnaire, distributed to circle members, was in four sections; support for quality circles in Ethicon, use of problem-solving techniques, eleven attitude items, and an assessment of how well members felt their expectations had been achieved (see Appendix II). The questionnaire was distributed through the facilitators. Completed questionnaires were collected by the facilitators and passed to the Co-ordinator. The total number of replies was 58, representing returns from 14 of 17 circles operating at any time (some circles disbanded and were resurrected so

that the total number in operation can be given as either 17 or 20). The three circles from whom no replies were received were all from the same area and shared the same manager, unsympathetic to circles, and the same facilitator. It proved impossible to establish if the questionnaires had been distributed at all, or simply not completed by the circle members. Follow up questionnaires had no effect on gaining a response.

Data collected by Alexander (1983) on circle leaders are also drawn on. His survey was conducted in September, 1983 of 20 circle leaders, 12 whose circles were still active and 8 whose circles had ceased operation. With the support of Ethicon for his survey, he achieved a 100% response rate. (See Appendix IV for the questionnaire distributed).

(iii) Documentary Sources

A wide range of background material was made available, including the training manuals and materials supplied by PA International, the firm of consultants used by Ethicon to introduce circles. There was also a range of publicity materials, for example, copies of articles from Tie-Line (the in-house magazine) and copies of presentations made by Ethicon staff to outside bodies and conferences about the quality circles.

From within the company there were copies of the minutes of the Quality Circle Development Committee (QCDC), the periodic reviews of progress from the QCDC to the Executive Group, a cost-benefit analysis carried out in 1982, and various memoranda and other short reports which related to the later stages of the quality circle programme.

7.2.3 The Quality Circle Programme

(i) An Overview

The management at Ethicon Ltd first became interested in Quality Circles in 1979. The directors from both personnel and production assessed their potential with visits over nine months to other companies with circles to see how they operated and ascertain what the costs and benefits might be. Having consulted with the Managing Director, these directors then proposed to the full Board that circles be introduced into Ethicon. In November 1980, PA Management consultants were brought in to assist in presentation to senior management, where they outlined the proposal to introduce circles and indicated the anticipated rewards. A "cascade-type" briefing system followed, taking in middle managers and first line supervisors. Finally, from among this latter group, volunteers were asked for who would be willing to attend the first Leader Training Course.

Three part-time facilitators were trained in December 1980, two from production and one from personnel. They in turn with the assistance of the consultant trained the twelve supervisors.

In January 1981, the first eight circles were formed, with a further three added in March 1981. Training for circle members took up much of the circle time for its first nine weeks of operation and was carried out by the leader with the assistance of the appropriate facilitator. In May 1981, two additional part-time facilitators were appointed to assist the newer circles. The programme continued to expand with the addition of two facilitators, with more presentations to supervisors being followed by the establishment of new circles. By the end of 1981, there were fifteen circles in production areas and plans for four more in non-production areas. However, in late 1982, only twelve circles were operating, "some more successfully than others".[1] It was apparent that problems experienced in 1982, in "communications, difficulties in identifying suitable projects and encouraging participation of those not directly involved in QC activity"[2] had not been fully resolved. The 1983 report mentions a range of problems:

1 Section E1/X - Quality Circle Development, Internal report by QCDC, 1983
2 Section E1/X - Lessons of 1982 - Quality Circle Development, Internal Report by QCDC, 1982

"project identification, retraining of new/existing members or difficulty in encouraging original participation either from circle members or from Departmental colleagues".[1]

From the first six months of 1984, no new circles were added to the fifteen then in operation. According to the bi-annual report, "identification of suitable projects and consequential involvement of line management in QC activities, proved to be a continuing 'grey area' in which the degree of involvement of line management varied".[2] From this point the programme began to decline. By September 1984, only seven circles were operating successfully, with a further four dormant. A total number of 20 quality circles operated, but never more than fifteen simultaneously.

Seven months later, four circles were active and two dormant. Finally, in September 1985, the programme was publicly wound up, when all Quality Circle leaders and participants received a memorandum from the Personnel Director indicating that the programme was being discontinued because "as with all such programmes there comes a point where enthusiasm reaches a peak and after

1 Section E1/X - Quality Circle Development, Internal report by QCDC, 1983
2 Section E/1X - Quality Circle Developments, Tactical Objectives Report, Internal Report, 29.7.84

which it is best to allow the natural run-down which follows. This point has now been reached".[1]

(ii) Achievement of Aims

As a company involved in medical and surgical goods, Ethicon already had a very high standard of quality in its product ranges. Quality circles were seen as a way of maintaining that standard and perhaps of improving it. A second aim relating to production was to lower costs.

While direct improvements in the product were aimed for, these objectives were seen as secondary to the indirect benefits which Ethicon hoped to achieve through quality circles as a form of participative problem solving. These aims are shown in Figure 7.1.

Figure 7.1 Objectives of the QC programme at Ethicon[2]

Objective	Means of Achievement
Improve and develop skills	Through the training programme
Improve leadership qualities	Through leadership training
Improve communication within the work group	Through Quality Circle meetings
Improve employee involvement	Through participative decision making
Improve communications with management	Through the management presentation
Improve job satisfaction	Through acceptance of solution
Improve quality of working life	Through implementation of solutions

1 Office Memorandum, Personnel Director to all QC leaders and Participants, 9.9.85

2 Alexander (1983, p.17)

The Cost-benefit analysis, prepared in 1982 by members of the QCDC as a progress report, spelt out the benefits which had been achieved through circle activity under four headings; Employee Benefit, Company Benefit, Health and Safety Benefits and Supervisory/Managerial Benefits.

Employee benefits were listed as follows:

"(a) increased awareness of the problems involved in operating a department

(b) improved awareness of the role of the Supervisor within the department

(c) improved understanding of the need to communicate both with other employees and other members of the management team

(d) an understanding of a number of statistical techniques used in problem solving

(e) improved interpersonal skills through group working and management presentation activities".[1]

Secondly, Ethicon recognised that the quality circles could have non-quantifiable benefits to the company, for example, communication between the supervisors and their subordinates, supervisors and foremen/middle management, had been strengthened. Where problems had occurred initially, these had been overcome,

> "highlighting the critical requirement of QCs, that management, in particular middle management or foreman level, must not only believe in, but also actively show their commitment to Quality Circles".[2]

1 Quality Circles, Cost-benefit Analysis, prepared by members of the QCDC, March, 1982, p.1
2 ibid., p.2

As a benefit to the company, the report also points out that the QC programme could be built on to satisfy impending EEC requirements for employee involvement, particularly if a link was formed between the Executive Groups and the quality circles. The solution of departmental problems through quality circle activity was also seen as a benefit to Ethicon, whether these projects had cost savings or no distinct cash benefit, but only environmental improvements.

In terms of the Health and Safety Benefits, the report lists seven specific projects which significantly improved some aspects of the environment (Housekeeping in the Spinning department and in Braiding, layout of lockers in male magnet changing rooms), or contributed to greater safety (revision of layout of tables in cartoning, improved lighting).

The Cost-benefit report outlines several distinct areas where supervisors had benefitted from quality circles, for instance, communication within the department and throughout the company, with peer groups, foremen and other managers, leadership skills had been enhanced through exposure to quality circle leader training, and further through the activity of running the group in QC meetings. The statistical techniques used in quality circle activities were also seen to benefit supervisors. On the other hand, a supervisor who was leading a quality

circle had to spend some time outside the hours allocated each week to prepare a project or presentation. In addition, if a supervisor had been allocated a project by an Executive group and also had a quality circle project to complete, "a clash over priorities may ensue if the supervisor's Executive Group project demands too much of the supervisor's time".[1] After all, QCs were "a voluntary part of a supervisor's role".[2]

Finally, the report identified clear benefits to those managers who acted as facilitators both in terms of their involvement internally with a range of people and projects, and externally with other companies, and with organisations such as the National Society of Quality Circles, the Industrial Society, Quality and Reliability groups and the National Economic Development Council.

In April 1985, the QCDC at Ethicon made a brief presentation to the Manpower Policy Board where they outlined their evaluation of the causes of the problems then facing the quality circles. As part of this presentation, the benefits gained from the circle programme were outlined, some of which are shown in Figure 7.2.

1 op. cit. p.5
2 ibid.

Figure 7.2 Benefits gained through QC programme in Ethicon

1.	Employee Participation	- 3 leader training courses - QC Appreciation Course for Middle Managers - 20 QCs - 2 Seminars at Heriot Watt University - Liaison with other companies, all leading to improved management/employee relation.
2.	Employee Development	- 30 supervisors, over 150 operators trained in problem solving techniques - Supervisors developed, leadership skills enhanced - Improved communication - written public speaking - Individual strengths/ weaknesses identified - Management Potential identified
3.	Problems solved	- problems highlighted and tackled - improved efficiency, less frustration, greater awareness
4.	Quality	- of products, employees, management - quality of working life
5.	Productivity Improvements	- Decrease in defects - development of quality consciousness - improved work methods, machine design, equipment - improved morale - more efficient process control - cost reduction, cost avoidance, all leading to an improved customer service.[1]

1 Quality Circles - Future within Ethicon Limited. Scripts for meeting of QCDC with Manpower Policy Board, 25.4.85

They also outlined what they saw as the major problems which the circles had experienced and which in some cases, had caused their demise.

As reasons for circles folding, the following causes were identified by the QCDC: Reorganisation of shifts (3), employee resistance/apathy (3), project too difficult (2), personality clashes (1), conflict of interests (1). In terms of the difficulties being experienced by the circles still operating, the following emerged: Conflict of interest (5), lack of active management support (1).[1] While these were the major problems identified, the QCDC emphasised that behind them lay a complex set of inter-related factors which contributed to the problems experienced by the circles. They classified these demotivators into two categories, physical and behavioural (see Figure 7.3). As a group, they were unable to reach agreement on the relative rank order of factors attributable to the circles overall, as they felt each circle had its own unique circumstances. However, they felt that operator apathy and leader ability were important in the behavioural area. Of the physical problems, lack of management support, slow running projects, and lack of projects were high on everyone's list.

1 Quality Circles - Future within Ethicon Limited, Script for meeting of QCDC and Manpower Policy Board, 25.4.85

Figure 7.3 Problems identified by QCDC in Quality Circle Failure[1]

Physical Problems	Behavioural Problems
Quality of Training Material	Operator apathy
Training of new members	Objections of other operators
Training Facilities/Aids	
No Quality Circles Room	Participation
Facilitator not available	Lack of Motivation
Lack of Facilitator's Time	Do people want participation?
Holidays	
Shift working	Leader's ability
Twilight difficulties	Status of Quality Circle - low profile
Lack of management support	
Poor communication	
Lack of obvious projects	
Project work moving too slow	

1 Quality Circles - Future within Ethicon Limited, Script for meeting of QCDC and Manpower Policy Board, 25.4.85

In terms of the benefits which quality circles had contributed, interviews with a range of Ethicon staff suggest a different and more complex picture. It was clear that many felt that there were benefits:

> "Presentations have been first class and of great benefit to QC members"[1]
>
> "Facilitators gained in management devevelopment and it gave a lot of people an opportunity and experience of working with different people".[2]
>
> "Team spirit in the department was a big gain. People started thinking about their job and began to do it better ... overall, there was better working as a team".[3]
>
> "There were cost savings, and lots of people learned about problem solving techniques and about business, it developed skills and abilities in people which they didn't know they had".[4]
>
> "On the positive side, QCs introduced techniques to the QC leaders - usually there is very little management training for supervisors. The techniques, like brainstorming and use of problem solving groups, can be used for production problems. We still use the techniques in the department and get supervisors to use small group work".[5]

However, when asked to evaluate the benefits in the longer term, a different set of responses emerge:

> "In terms of effort and expenditure, QCs were not worth while in terms of quantifiable benefits. One or two projects saved money, but at the end of the day, given the amount of expense and effort, then did not justify it".[6]
>
> "QCs now almost forgotten - was something that happened for a while but is over now. They left no lasting impression on the company".[7]

1 Interview 21.11.84
2 Interview 8. 4.86
3 Interview 8. 4.86
4 Interview 8. 4.86
5 Interview 11. 6.86
6 Interview 8. 4.86
7 Interview 8. 4.86

> "Thank goodness, when circles stopped. They were losing credibility - results weren't good enough. Giving skills to people was great, but did they really want the skills? No ... results of projects did not justify the effort ... people enjoyed it at the time, but they have kept nothing from it."[1]
>
> "Some people have a better understanding but QCs really have had no lasting effect ... probably did not change attitudes to the company"

In his survey of the twenty quality circle leaders, carried out when the circles were on the point of decline, Alexander (1983) compared what the leaders considered were Ethicon's reasons for introducing circles with what the leaders themselves thought was the most important benefit. The relative placings of the factors they identified is shown in Figure 7.4, and show that the circle leader felt that the company's objectives were quite different from their own.

Figure 7.4 Comparison of which benefits quality circle leaders leaders consider most important, with their perceptions of Ethicon's objectives.[3]

Why Ethicon introduced QCs	Rank	QCs most important benefits
Employee Involvement, Participation	1	Solve work related problems
Improved efficiency by cutting costs	2	Develop team spirit
Solve work related problems	3	Improve management - employee communication
Trying new managment techniques	4	Improve working conditions
Improve Working conditions	5	Safeguard jobs by cutting costs
Improve product standards and quality	6	Enrich jobs
Improve team spirit	7	Improve quality and quantity
Improve communications management/employee	8	Participation in decision-making
Improve productivity	9	Develop leadership skills
Improve job satisfaction	10	Improve company image and loyalty
Increase motivation	11	Improve pay and salaries
	12	Membership increases promotion prospect

1 Interview 8.4.86
2 Interview 9.6.86
3 Alexander (1983)

Clearly, there is no simple consensus; even those who could see benefits were critical of the way the circles operated and the way the programme was wound up.

(iii) Facilitation, Management and Leadership of the Quality Circles

In late 1980, two separate groups were set up to monitor and supervise the quality circle programme, the Quality Circle Policy Group, formed at director level, and the Quality Circle Development Committee (QCDC), composed of facilitators, managers and foremen. The former group met infrequently and had little effect on the circle programme. The QCDC, on the other hand, was in day-to-day control of quality circle activity and played an active part throughout. The group met monthly and discussed items of concern to circles under four headings: Physical Operation of Quality Circles, Communications, Introduction of New Circles and Facilitators' Update.

Over the five years of the quality circle programme, seven part-time facilitators were appointed. Figure 7.5 describes the main tasks involved for the facilitator:

Figure 7.5 Facilitator's Role at Ethicon [1]

Leader Training
Introducing QC concept to potential QC members
Organising the start-up of a circle
Teaching circle members 'techniques'
Helping members with projects
Helping circle leaders to plan and prepare meetings
Helping leaders to keep circle 'on track'
Calling in specialists and getting information
Liaising with interfacing departments
Helping with QC administration
Ensuring proper communication
Helping to prepare for/set up management presentations
Helping to "oil the wheels' in getting ideas accepted

In the interviews carried out, there was frequent mention by respondents of a range of problems associated with quality circle facilitation at Ethicon. Without doubt, the decision not to have one full-time facilitator was to have a significant impact on the operation and progress of the quality circles. This decision goes against the recommendation of almost all advisors, including that given in the Quality Control Circles - Leaders Manual used by Ethicon themselves:

> "In all but the smallest companies, the duties of the Facilitator should be treated as a full-time assignment so that this individual may devote full attention to making QC circles a success" (Rieker, 1977, 4-1).

1 Cost-benefit Analysis 1982, Appendix

The facilitators chosen at Ethicon were expected to add the extra duties to their normal workload. As the circles they dealt with were often on a different site, there were practical difficulties in attending meetings. Some circle leaders commented on this and the difficulties it caused for the circles, when it proved impossible to contact the facilitator. Circle leaders commented also on the extra workload involved for the facilitators:

> "managers were too busy, they did their best but the additional burden was too much for them".[1]

However, another manager felt that the facilitators, while good managers, were not good facilitators but "claimed overwork as an excuse".[2] Members of the QCDC, which comprised all facilitators and other managers, raised the question of a full-time facilitator towards the end of 1983[3] and discussion was to continue for the next year. By March 1984, the Manpower Policy group had considered that

> "although the need for [a full-time facilitator] was agreed in principle, a final decision had still to be made".[4]

1 Interview 9.6.86
2 Interview 21.3.85
3 QCDC Minutes, Meeting No. 38, 24.11.83
4 QCDC Minutes, Meeting No. 41, 29. 3.84

Discussions at subsequent meetings ranged around possible candidates from within the QCDC for a two year secondment, or the possibility of using a Teaching Company Associate[1] although no conclusion was arrived at.

When the QCDC made its presentation to the Manpower Policies Board in April 1985, one of their major requests was that if the circle programme was to continue as they proposed, a full-time facilitator should be appointed:

> "We recommend the introduction of a full-time facilitator who would be able to give full commitment to Quality Circles, improve communication between circles and Management and non-circle employees, liaise with outside Quality Circle interests and thereby improve Quality Circle operations within Ethicon".[2]

Support for a full-time facilitator was not unanimous; one middle manager, a member of the QCDC, felt that

> "A full-time facilitator would have led to a loss of interest by the others".[3]

However, the Manpower Policy Board, in response to the QCDC's proposal on rejuvenation of the circles agreed to further support circles and, as part of that response, to employ a full-time facilitator. Identifying who that

1 QCDC Minutes, Meeting No. 42, 26. 4.84
2 Quality Circles - Future within Ethicon Ltd, Scripts for meetings of QCDC with Manpower Policy Board, 25.4.88
3 Interview 8.4.86

might be proved more difficult; some candidates were seen as too important "for development and succession purposes",[1] others were too busy or involved in long-term projects and others "lack the charisma and clout to inspire QCs",[2] or lacked seniority. The pool shrank to only two senior production managers, both of whom were considered to be experienced facilitators, keen on quality circles, in departments with adequate back-up to release them for one year. Those managers were both from operational backgrounds, with power of persuasion and persistence and had a broad understanding of departmental processes and management personalities through representation on other committees.[3] It was suggested that the management consultant involved at the launch of quality circles might return to Ethicon and, with the assistance of the newly appointed "Quality Circle Manager", review the programme and assist with a relaunch.

By 13 August, the decision not to continue circles in any form was made public.[4] Attempts in interviews to get a clear picture of what had intervened to change the Personnel Director's intention to relaunch circles proved

1 Manpower Policy Board Response to the Quality Circle Development Committee's proposals on Rejunvenation of the Ethicon Quality Circle Programme, 6.6.85
2 ibid
3 ibid
4 Office Memorandum, Personnel Director to all QC Leaders and Participants, 9.9.85

very difficult. On all other issues, there was little opposition or evasion which could not be overcome by further, more direct questioning. However, some indications that almost everyone was glad the circles had gone forever were apparent:

> "Most people's attitude was, 'thank goodness', when circles stopped".[1]

Other middle managers, not directly involved in a circle, concurred:

> "We were at a point where it seemed that no matter what happened, QCs would have failed, although we did not feel that at first. Somewhere people lost interest and it became boring - maybe they just had a natural life cycle".[2]

A number of additional reasons can be suggested. On a visit to Ethicon in February 1985, I was shown a copy of the article by Lawler and Mohrman (1985) from the Harvard Business Review, "Quality Circles: after the Fad". Even the title of this article was remarked on by the manager, who felt that at Ethicon, they were experiencing similar post-circle blues - "a suspicion that we were caught out".[3] Until this time, almost all articles and publicity about circle programmes had been extolling their virtues, never dealing with the possibilities of failure.

1 Interview 8.4.86
2 Interview 11.6.86
3 Interview 12.2.85

The proposal to employ a full-time facilitator may also have encountered problems at director level. Of the two directors affected by the loss of a Production Manager to QC Manager, one was known to be opposed to quality circles from their beginning to their end. The other, who was one of those who initially proposed circles "was originally quite cynical about the value of the QCs",[1] although the feeling among those interviewed was that this view had been modified. The former director also believed that neither of the managers proposed for Quality Circle Manager/Full-time Facilitator was keen to accept.

Finally, Ethicon is a company which likes, in the words of one manager, "to latch onto things"[2] and in 1985, they had taken up QIP, Quality Improvement Process. This had already been mentioned to me on earlier visits and a senior manager from Ethicon had visited a sister company in the USA where QIP was operating. There are many similarities between QIP and Quality Circles but also significant differences. QIP is a management-led quality programme, not voluntary but compulsory for all, features which might well make it seem more attractive than quality circles to a director and management group. (Incidentally, the manager designated to oversee QIP was one of the two proposed by the Personnel Director for the position of Quality Circle Manager).

1 Script, Presentation by Personnel Director to Ethnor, Paris, 25.9.81
2 Interview, 8.4.86

The appointment of part-time facilitators from outside the quality circle's department caused further difficulties. While it was hoped that their lack of involvement in the operation of the circle's department would allow the facilitators to be objective and would prove useful, more often it proved a barrier. To some managers, it seemed that the facilitator was not sufficiently knowledgeable about the work processes involved in another department to be able to advise the circle.[1] However, a major issue was the relationship between the facilitator and the manager of the department in which the circle was situated. This was exacerbated by the fact that most of the facilitators were of the same status as the department manager, and had no authority to ask for assistance from the manager if it was needed. One manager described the situation as he saw it:

> "The facilitator never spoke to me about what the QC was getting on with. Then one day he walks up and asks me if I will give the QC people extra time to do their wee graphs and drawings on the department's time".[2]

Similarly, another department manager described how the facilitator would attend meetings of the quality circle, but never speak directly to him about their progress.[3]

1 Interview 21.11.84
2 Interview 21.11.84
3 Interview 21. 3.85

It appeared that neither manager wanted to face the other openly so that the situation persisted. Much of the difficulty arose because of the lack of communication between the circle and their manager, and between the manager and the facilitator. The managers were not satisfied to hear about what the circle was doing only through the QC minutes, but expected an informal lateral system of communication to supplement them. It was felt by some that choosing the manager as the facilitator would have reduced this problem;[1] however, it might well have created others.

Questions were also raised concerning the expertise of the facilitators and their ability to guide the circle leaders competently.[2] The four additional facilitators, appointed some time after the first circles were launched, may have been less well trained and less experienced than the original three, one of whom had resigned by the end of 1982.

There was also a strong suggestion that the facilitators may, albeit unintentionally, have dominated the circles. The facilitators recognised this themselves.

> "Facilitators spent too much time pushing the QCs, never came to circles pulling, QCs never became autonomous and independent of the facilitators, never got their own organisation".[3]

1 Interview 4. 6.86
2 Interview 21.11.84
3 Interview 20. 2.85

One quality circle leader described his uneasy relationship with his facilitator:

> "The Facilitators did not give the group a chance. They were railroaded into doing things, I told the Facilitator to be quiet but he overruled me ... Facilitator tried to run the group".[1]

Foremen, all of whom had contact with circles agreed:

> "The Facilitators ran the QC, sometimes the members were glad when the Facilitator was not at the meeting - they tended to dominate when they were".[2]

The facilitator's presence was therefore seen by the circle leaders and members as unnecessary and sometimes overpowering. Some members of the QCDC, themselves facilitators, saw it differently:

> "We tried various strategies to involve them (Facilitators) further, like getting them to attend all QC meetings".[3]

In 1983, as part of the Revitalization Programme, facilitators were instructed to attend QC meetings "to indicate the commitment of the Development Committee and the company to QCs".[4] This they did[5]. However, the facilitator's involvement in choice of projects and in presentations remained problematic, as will be seen in later sections.

1 Interview 10.6.86
2 Interview 11.6.86
3 Interview 12.2.85
4 QCDC Minutes, Meeting No 34, 30.6.83
5 QCDC Minutes, Meeting No 36, 29.9.83

All facilitators, as well as representatives of middle management, were members of the Quality Circle Development Committee (QCDC). In the course of the research all but one member of the QCDC were interviewed, four of them on two or more occasions. (Many of the remarks were made retrospectively, with some suggestion of a defensive position). Their views of the QCDC varied:

> "It was a bunch of well intentioned people who lacked direction and a dynamic approach. We tended to think about strategy only when we got together, once a month or so... Some people did not do the things that were needed, and the leadership was not as good as it should have been - remember, we all had other problems rumbling away".[1]

These criticisms were shared by another member of the committee who felt that the QCDC was not proactive in dealing with the circles:

> "QCDC was not as active as it should have been, it did not follow up on problem circles and did not actively go out of its way to learn from QCs that were failing ... QCDC could have invited a QC in when they were having problems - there was no post-mortem of failures... It didn't look in enough, didn't want to hurt feelings and preferred to walk softly".[2]

Those outside the QCDC were somewhat suspicious of the motives of those involved and considered that the members of the QCDC were there "because they saw that QCs was the way the company was going and as ambitious people, they saw it as a way on for themselves".[3]

1 Interview, 8.4.86
2 Interview, 9.6.86
3 Interview, 11.6.86

In the course of its operation, two members left the QCDC and, not surprisingly perhaps, were critical of its performance. The picture they presented was of a small cohesive group, with members of unequal status, where there was severe pressure exerted by members on others not to be critical of the operation of the group, for example:

> "If a facilitator was absent from a QCDC meeting, he was stabbed to death in his absence ... the rivalry between the facilitators had to be seen ... each one needed to be seen to have the most successful, most enthusiastic circles".[1]

The inequality of status within the group gave rise to difficulties also:

> "In the group, there were two foremen and all the others managers, a status difference within the group... it was clear that foremen were not going to be facilitators".[2]

It was also suggested, both by ex-members of the QCDC and by those who were invited to attend the committee's meetings as observers, that there was pressure on the facilitators to misrepresent the health of the circles for which they were responsible. In some instances, it was claimed that the facilitator would wrongly imply at QCDC meetings that they had attended circle meetings when they had not, or that their circles were engaged on a project when they were not. It was difficult to substantiate these allegations but they were made by a

1 Interview, 4.6.86
2 Interview, 4.6.86

number of interviewees, and perceived by them to be indicators of the mendacity of the QCDC. The facilitator who resigned also felt that the group had ostracized him and made it clear that he was regarded by them as an outsider with nothing further to contribute to the programme.[1] Outsiders regarded the resignations of QCDC members as either courageous or calculated.[2] The general feeling was that the QCDC wanted to blame the failure of the programme on either a "fall-guy", one of the QCDC members or on middle managers, which was "a fog to cloud the issue... a red herring".[3]

Questions were raised too about the abilities of the circle leaders, and their commitment to the circles:

> "The big danger was that leadership qualities were lacking in supervisors, some not interested at all, some got involved only because it was expected of them".[4]

> "Circle leaders were not of high enough calibre to take on the responsibility. Quite good supervisors but not interpersonal skills, lacked training, education, disciplines".[5]

The charges levelled at the leaders echo those criticisms made of the facilitator - they could not find and maintain the correct distance from the circle:

1 Interview 21.11.84
2 Interview 11. 6.86
3 Interview 4. 6.86
4 Interview 8. 4.86
5 Interview 8. 4.86

> "The QC Leaders had problems with communication with the group. They did not use their people or their talents - hogged all the work - did not trust members to do the job. The QC members felt underused and left".[1]

> "(As a leader) I ended up doing too much, I gave out the projects but gave them help and interfered".[2]

> "The QC Leaders were accustomed to using Foremen to get things done. They found it difficult to stand up to outsiders whose help they needed like engineers, etcetera".[3]

To some extent, training could have provided the necessary skills and abilities but the underlying criticisms of the circle leaders implied that weaknesses existed which no amount of training could overcome. Others were suspicious of the motives of the supervisors who volunteered:

> "Some supervisors are very naive and will fall for anything, they will think QCs are marvellous. They tend to be immature and unable to see the problems and difficulties associated with QCs".[4]

> "Some supervisors saw QCs as a way forward for promotion but then wouldn't do the necessary work outside QC time to make it successful. One supervisor was spending 70% of his time on QC activity - even had non QC - members involved in drawing graphs".[5]

1 Interview 9. 6.86
2 Inteview 10. 6.86
3 Interview 11. 6.86
4 Interview 21. 3.85
5 Interview 21.11.84

Alexander's (1983) project provides more data on the leaders of the quality circles. In one question, they were asked to state in their own words their main reason for becoming circle leaders, and assess the extent to which this had been achieved. Eighteen (90%) became leaders for the benefits they felt circles could offer, one (5%) because of company loyalty and one (5%) took over from a previous leader. Interestingly, fewer than half, (9, 45%) felt their aim had been achieved, two (10%) felt it was partly achieved, and nine (45%) felt it was not achieved at all. (It should be remembered that of the twenty leaders, only twelve were still in operating circles).

The leaders were also asked to state what they enjoyed most and least about running Quality Circles. The results (in Figure 7.6), summarized by Alexander, indicate the four most commonly mentioned factors.

Figure 7.6 What QC Leaders enjoy most and least in running Quality Circles[1]

Enjoy Most	(%)	Enjoy Least	(%)
Successful resolution of projects	50	Extra Duties	60
Confidence of members enhanced	42	Problem of Project selection	10
Enjoy leading	11	Poor attendance by members	10
Enjoy rapport and team spirit	11	Resistance from within or outwith department	10

1 Alexander (1983)

The leaders were also asked what suggestions they would make to improve quality circles: ten (50%) suggest that training should be improved, five (25%) thought that finding good projects was important, three (15%) thought that management presentations should be improved, and two (10%) thought quality circles should be taken out of the shift system.

In judging management commitment to quality circles, eighteen (90%) thought management were favourable, and one (5%) indifferent. Indeed, the leaders, when asked if they thought circles would continue, eleven (55%) said they thought they would because of management commitment - not that the leaders thought the circles were beneficial, but that the managers in charge were committed to them (Alexander, 1983).

(iv) Training

Ethicon engaged PA Consultants to assist in the introduction of circles and the training of those involved. The training programme was based around the manuals prepared by Wayne Rieker of Quality Control Circles, Inc, with some adaptations for a British workforce.

There are six manuals provided in the training course: Facilitator Manual, Leader Manual, Instructor Guide (Basic), Instructor Guide (Advanced), Study Guide (Basic) and Study Guide (Advanced). The extracts below are taken mainly from the Leader Manual which is aimed more specifically at supervisors/quality circle leader, with some additional material prepared by the consultant at Ethicon.

Each circle leader was taken by the facilitator through the Basic Study Guide which contained instructions about the basic circle techniques, with accompanying objectives, exercises and questions. The Leader Manual outlined the purpose of quality circles and the role played by the facilitator, QC leader and QC members.

The manual also points out that the intention of circles is that the 'team-like feeling' generated within the group will carry over outside the meeting and become a natural way for the group to work - "this is what QC circles is intended to do, it is not just a one hour per week meeting. It is a participative, co-operative way of operating or managing" (Reiker, 1977a).

The basic techniques taught in the circles at Ethicon were Brainstorming, Cause and Effect, Pareto Diagrams, Graphs, Histograms and Check Sheets. These techniques

are used by the circle to help them identify which problem or project has a high priority for improvement: a pareto diagram can separate the 'vital few' from the 'trivial many'; a graph or Bar Chart can show the extent of the problem; a histogram can show how much of a process is out of specification. At the same time the participants learned about group behaviour and how to prepare for and carry out a management presentation.

The topics mentioned above were covered by the facilitators for the leaders. The leader then trained the circle member during the first five or six meetings. The Brainstorming sessions early on provided an opportunity to identify a small project which was then used to illustrate how the techniques were to be employed.

Of a total of 50 first line supervisors at Ethicon, 30 took part in the Leader Training Courses. In addition, 12 foremen attended a QC Appreciation Course. Ten managers were directly involved with the circles as facilitators, circle leaders or members of the QCDC.

There was significant disagreement among those interviewed as to the value and effectiveness of the training for participants in the quality circle programme at Ethicon. Many had reservations about the content:

> "The package used by the PA consultants was not right for Ethicon - too much emphasis on statistical techniques and too little on group and behavioural issues".[1]
>
> "Training did not focus enough on leadership skills or how to run a team though they did do some group dynamics".[2]

Others felt that the training course was too Americanized and jargony,[3] and that it was 'hyped'.[4] In dealing with the technical aspects of quality management, it overlooked the leader training - "it presupposed that people had good leadership skills".[5] It was considered by one interviewee, a member of the QCDC, that there was pressure on the circles to use the techniques in all problem investigation even when they may have been inappropriate - "there was pressure on Facilitators to ensure that the money spent on QCs was justified".[6]

Other criticisms of the training were that it was too slow and too formal, "a bit Mickey Mouse"[7] and that in some cases, facilitators began a project with a circle before the training had been completed.[8] Leaders of

1 Interview 20.2.85
2 Interview 20.2.85
3 Interview 20.2.85
4 Interview 10.6.86
5 Interview 8.4.86
6 Interview 4.6.86
7 Interview 11. 6.86
8 Interview 20. 2.85

quality circles were also dubious of the value of the technical training. One ex-leader maintained that the circle did not use the techniques to solve problems as they found the graphs too complicated:[1] another facilitator agreed that the circles did not have full grasp of the techniques.[2]

Alexander (1983) asked the circle leaders how they thought the training could be improved. Their suggestions are shown in Table 7.1.

Table 7.1 Changes Suggested by QC Leaders to Improve Training	%
Produce own or more Ethicon-related Training Programme	35
Programme was too Americanized	47
Expand Leadership Training Programme	4
Too much time spent on basic techniques	13

The leaders were also asked to rate how useful they had found the techniques covered in the training for both quality circle investigation and for non-circle problems. Sixteen (80%) found the techniques useful in circle work, while only ten (50%) considered they were useful outside circles. The remaining ten were divided between undecided (7, 35%) and not useful (3, 15%).

1 Interview 20. 2.85
2 Interview 8. 4.86

Improvements to the content of the training course were suggested by two managers. They felt that the circle members were often unaware of the reasons for the delays in getting changes made:

> "Training for QCs should have dealt with the system within Ethicon, for example, budgeting, so that the QC would realize the time delays in getting information, making decisions, getting solutions accepted and implemented...QCs are not always aware of these factors".[1]

On the other side, there were those who felt that the training materials were very good;[2] one circle leader mentioned that the circle had used the techniques, especially bar charts, cause and effect diagrams and brainstorming. There was praise, too, for the professional approach of the trainers.[3]

Two of the middle managers were more circumspect in their approval:

> "The training course was OK. I was quite enthusiastic about it - everyone was enthusiastic but that was the way the company was going so it was necessary to be seen to be enthusiastic".[4]

The QCDC was aware of the criticisms of the training course and had looked into it. On the quality and content of the training films, they concluded that they were adequate "provided they were related to departmental

1 Interview 21.11.84
2 Interview 8. 4.86
3 Interview 9. 6.86
4 Interview 11.6.86

examples".[1] Leader training proved a more difficult obstacle, one which was not overcome.

In the survey of previous quality circle members, two questions related to training. First, the respondents were asked to indicate how often they had used specific techniques in their quality circle. Table 7.2 shows the percentage of those who claimed to have used the techniques (N = 58).

Table 7.2 Frequency of using data gathering techniques (%)

	Always	Often	Some-times	Rarely	Never	No Answer
Brain storming	38	45	16	-	-	1
Pareto Analysis	10	10	38	24	7	10
Cause & Effect	26	47	24	5	-	-
Histogram	17	12	33	28	5	5
Check Sheets	34	43	17	3	2	1
Graphs	29	26	24	10	10	1

It appears that Brainstorming was used extensively, as were check sheets and cause and effect diagrams, with Pareto Analysis and Histograms used less often.

1 QCDC Minutes, Meeting No 24, 7.9.82

The second question related to training was one of the attitude statements presented on the questionnaire. (Table 7.3 shows the complete results for these items). From item 3, it seems that the majority (69%) of respondents felt that the training was adequate, with the remaining 30% undecided, or in disagreement.

The circles, inevitably, had a turnover of members which caused training difficulties. These were voiced at the QCDC meetings but it was a problem which was never satisfactorily solved. In 1983, it was proposed that the need for a central training scheme be investigated "so that adequate training can be given to new circle members before they join their respective QCs".[1] The first of these was held in January 1984, and "considered a success by the committee".[2] At the same time, the QCDC was considering the introduction of quarterly training sessions for leaders in "advanced techniques, communication, basic concepts of leadership and the exchange of ideas".[3] Review of the circle programme in 1983 had indicated a range of areas where circle leaders were felt to be weak, and it was hoped that these could be remedied by more intensive training. However, no further developments took place on this issue.

1 QCDC Minutes, Meeting No 34, 30.6.83
2 QCDC Minutes, Meeting No 39, 9.2.84
3 ibid

Table 7.3 Attitude Items (Percentages)						
N = 58	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Disagree	No Answer
1 Being in a quality circle was an enjoyable experience	33	**55**	9	2	0	2
2 There was very little support from management for quality circle	10	19	14	**47**	9	2
3 The training given to quality circle members was inadequate	5	17	7	**62**	7	2
4 Even when there was pressure for production, management always made time available for quality circle meetings	5	**41**	10	34	7	2
5 Quality circles were of more benefit to those who took part in them than they were to Ethicon	3	14	24	**48**	9	2
6 Management were too closely involved with the quality circle	2	10	14	**66**	7	2
7 Any information the quality circle requested was made available	14	**59**	9	12	3	3
8 The quality circle was free to look at any problem	10	**50**	7	28	5	2
9 Few people who took part in quality circles would be willing to join a similar group again	7	19	19	**45**	9	2
10 Quality circles did not give their members more say in how their work is organised	7	**40**	17	33	2	2
11 Management always gave a full explanation if the recommendations of the quality circle were not implemented	3	**48**	24	16	7	2

(v) Content

Two issues relate to the content of the quality circle programme at Ethicon, (a) the choice of topic by the circles on which to base a project, and (b) the presentation by the circles of their proposed solutions to the project they had undertaken, and the action taken on their proposals.

(a) As indicated by other research, the choice of project has been a recurring problem in many other organisations as well as in Ethicon. Clearly, there were those involved in the management of the circles who had initial reservations:

> "Our original and rather cynical view was that the projects identified by each QC would be those over which the circle had no influence (ie Canteen Prices, Job Rates, Holidays, etc). This has not materialized. Rather the vast majority of QC's have identified often small departmental projects ... some having distinct cost savings to Ethicon. Others as we also anticipated, have had no distinct cash benefits to Ethicon Limited, but have suggested improvements in environment and/or safety matters, or in a different level entirely, re-organisation of the lockers".[1]

As an appendix to the Cost Benefit Analysis, an outline summary of the projects undertaken by quality circles at Ethicon was presented which compared the cost savings, the cost of introduction

1 Quality Circles, Cost Benefit Analysis, prepared by members of the QCDC, March, 1982, p.2.

and the benefits of each quality circle project (see Appendix V). While some of the projects were instrumental in cost savings, others incurred cost to no apparent financial benefit.

It is difficult to evaluate and directly compare the costs incurred by introducing a proposal with an estimate of the savings it has attained. The managers at Ethicon were vague on this point. However, if the figures given in the cost-benefit analysis of 1982 are accepted, the net savings are one-off savings of £5,119 and recurring savings of £1,085 p.a., on 37 projects identified. In fact, twenty of the projects appeared to incur neither costs nor savings.

Table 7.4 Balance of Costs and Savings of Quality Circle Projects[1]

	Cost Savings	Cost Incurred in introduction	Net Savings
One-off	£11,410	£6,291	+£5,119
Recurring	£ 2,635 p.a.	£1,550 p.a.	+£1,085 p.a

The benefits identified in the analysis indicate that operator convenience and efficiency, environmental benefits and safety feature prominently.

1 Summary of Quality Circle Projects, Costs and benefits, Appendix II, Quality Circle Cost Benefit Analysis, 2.3.82

The difficulty of identification of suitable topics to investigate became apparent during the first year of operation of the quality circles programme. In March 1982, Facilitators at the QCDC meeting were asked to encourage their circles to investigate short term projects[1] to keep their momentum going while long and medium term projects were underway. To this end, departmental managers were approached for their ideas.[2] This issue was also mentioned in their report to the Manpower Policy Board by the QCDC in July 1982,[3] and was taken further in the 'lessons of 1982' section:

> "One major objective during 1983 must be the identification of projects for QC activities. To facilitate this, consideration should be given to the creation of an informal link between the EG (Executive Group) system and the activities of a QC within a Department. This link, possibly through the Supervisor, may be the vehicle through which projects can be directed toward a QC, thereby achieving the twin objectives of voluntarily involving employees and developing the QC programme further".[4]

In the QCDC meetings, similar problems were being experienced with "identification of suitable projects now becoming a problem with a number of QC groups and in particular with those that have been

1 QCDC Minutes, Meeting No 19, 4.3.82
2 QCDC Minutes, Meeting No 20, 8.4.82
3 Section E1/X - Quality Circle Development, Internal Report prepared by QCDC, 1982
4 Section E1/X Lessons of 1982, Quality Circle Development, Internal Report by QCDC, 1982

in operation for some time".[1] The suggestion that Executive Groups could assist in identifying projects was not welcomed by the QCDC:

> "The general consensus was that this might be looked upon by the QC Groups as direct interference by Management in the running of their groups, and could result in a negative reaction from members".[2]

Internal memoranda show the difficult patch which the circles hit in mid-1983. A review of the circles was undertaken in May which was attended by members of the QCDC, senior managers and department managers. The QCDC members (which included all the facilitators) had already identified a number of concerns, among their project identification; they saw project identification as crucial in the development and consolidation of circles but a sensitive area in which management should not be seen to have undue influence.[3] The review group recommended that the process of project identification be examined and the involvement of line management sought to assist in this; informal links with the Executive Groups should be used and appropriate projects fed onwards by the facilitators to circles for their acceptance or rejection. The possibility that suitable projects may not be identified was also considered:

1 QCDC Minutes, Meeting No 30, 24.2.83
2 QCDC Minutes, Meeting No 31, 6.4.83
3 Office Memorandum to QCDC members, 6.5.83

> "If it proves totally impossible to obtain suitable projects for a QC, then that QC should be disbanded and a sensitive explanation of the reasons given to the QC Leader and Members, pointing out that the QC training had imparted a certain value which might be utilized in the future, either in QCs or in another relevant context".[1]

By July 1984, little had improved. The QCDC report of the first six months of 1984 showed that "identification of suitable projects and consequential involvement of line management in QC activities, proved to be a continuing "grey area" in which the degree of involvement of line management varied".[2]

At the meeting of the QCDC with the Manpower Policy Board in April 1985, again the difficulties of project identification were raised and cited as one possible cause of circles discontinuing. In response to their presentation, the Personnel Directors suggested that:

> "Each Executive Group or Departmental Group would suggest possible QC projects within its area; the QC or QCs involved would be free to choose which project it wanted to work on or to initiate its own project".[3]

1 Quality Circles - Review, Personnel Director, 20.5.83
2 Section E1/X - Quality Circle Developments, Tactical Objectives Report, Six months ending 29.7.84
3 Manpower Policy Board Response to Quality Circle Development Committee's proposals on Rejuvenation of the Ethicon Quality Circle Programme, 6.6.85

This suggestion was not taken up and within two months the circle programme had been discontinued. Interviews with those involved with circles confirmed the difficulties which had been experienced in identifying and investigating projects. A number of interviewees attributed the cause of failure of circles specifically to this issue:

> "It was difficult to identify a project which was not too trivial nor too large and was located within the department".[1]

> "Lack of suitable projects was a cause of QC failure. Either the projects were large and the manager's concern or they were small niggling ones.[2]

> "The QC had a struggle to get a valid project ... there seemed to be two extremes - either the project was easy and the manager scoffed or the project was too difficult and the QC couldn't cope".[3]

In Alexander's survey, the leaders were asked if they thought circles would still be operating in five years time. Of those who had reservations, 11 (55%) felt the main obstacle was lack of suitable projects. Overall, if the problem of identifying projects was successfully tackled, 15 (75%) thought circles would survive; if not only 9 (45%) thought so.

1 Interview 12.2.85
2 Interview 20.2.85
3 Interview 8.4.86

To some extent, Ethicon's emphasis on high level of quality control may have made the task of project identification more difficult for circles:

> "There were few things so fundamentally wrong that they could be changed ... The QC were encouraged not to look at quality ... we were aware of problems but they were not important, acceptable problems".[1]

> "There was not enough to let them get their teeth into - it depends on the leeway. In a badly run company, there is more scope and the impact would build up more enthusiasm ... the Facilitators in Wedgwood knew that they faced redundancy".[2]

In Alexander's (1983) survey, sixty two significant projects were identified by the twenty circle leaders, as well as numerous small projects. When asked to indicate the outcome of these projects, the leaders judged that only 34 (55%) had been successful, 11 (13%) were partially successful, 9 (14.5%) unsuccessful with 8 (18%) ongoing. The leaders were also asked to indicate the outcome of the first project they had undertaken. Fewer than half had managed to find a solution: 9 (45%) successful, 8 (40%) partially successful, 3 (15%) ongoing.

1 Interview 4.6.86
2 Interview 8.4.86

As mentioned in earlier sections, inexperience on the part of the facilitator could have contributed to the problem; there were suggestions that the facilitators encouraged projects that were "too long winded and difficult",[1] or allowed circles to embark on projects without adequate training.[2] The facilitators themselves acknowledged these difficulties:

> "Sometimes the QC could not always identify a project or the Facilitator could not assess its suitability. In general, the QC would identify a problem, then approach the Foreman or Department Manager".[3]

The relationship between the circle and the departmental manager was another factor affecting project choices. Two middle managers, who had had a circle in their departments voiced it:

> "There was lots of resentment from managers who saw QCs as solving their problems ... 'what were you doing for the last ten years?', you know".[4]

Clearly some of the managers resented this:

> "Managers did not support QCs - they felt threatened - if the circle threw up a problem it looked as though they weren't doing their job ... they tended to put the QC down with sarcasm and cynicism saying things like 'your new fangled ideas' or 'we've seen it all before'".[5]

1 Interview 21.11.84
2 Interview 20. 2.85
3 Interview 8. 4.86
4 Interview 10. 6.86
5 Interview 8. 4.86

One departmental manager who had a circle in his department was openly hostile to quality circles. He had run a similar type of departmental group, Cost Reduction Groups, on his own initiative which he felt did a better job than quality circles were doing. These groups were under the direct control of the department manager. In describing the type of project the quality circles had undertaken, he was critical of what he saw as their naivety:

> "The QC group couldn't realize that problems will always exist, that is, some dissatisfaction. The QC was acting as amateur managers that were trying to do something which managers have been trained to do ... they never appreciated the complexity of the questions, never came up with an answer, all they did was clarify the problems not tracing the cause ... even then, if I had been asked, I could have told them that those machines were going anyway".[1]

This extreme attitude was not found generally, although it was apparent in milder forms. An additional difficulty was faced by circles where the nature of the problem caused them to look for technical assistance. Two quality circle leaders saw it thus:

> "The choice of projects for Foil was made more difficult because in most cases they would need assistance from engineering which was not always forthcoming. All the same, in one case when the QC asked for help, at first there was resistance but when the Head of Engineering saw the proposal of the QC and was asked for his opinion, he was very helpful and got fully involved".[2]

1 Interview 21.3.85
2 Interview 21.2.85

However, the reluctance on the part of Engineering to help quality circles was not seen as specific to quality circle activity but as typical of their normal way of operating.[1] Nevertheless, a rebuttal by Engineering to a request for assistance from a quality circle sometimes caused the members to become disheartened.[2]

Alexander (1983) asked the circle leaders how often they had experienced problems in getting back-up assistance when solving circle problems. The results showed that equipment (N=7, 35%) caused most problems, while Supervisory Assistance (N=6, 30%), Statistical Information (N=3, 15%) and Specialist Assistance (N=1, 5%) were also mentioned. None of the leaders reported any difficulty in getting information from management. Of those who reported difficulty, 50% felt that this had hindered their investigation.

As well as internal constraints, the circles also experienced problems in getting assistance or information from outsiders:

> "The QC often found a delay in getting something from outside suppliers, the QC was not top priority. Some circles, when they found the delay, became discouraged. They discovered what we know - they are left waiting - the QC started to learn what we [managers] already know".[3]

1 Interview 11.6.86
2 Interview 10.6.86
3 Interview 10.6.86

During the interviews, it became clear that some projects had been problematic. These examples were quoted in passing on several occasions but rarely made explicit. Two middle managers, both of whom had contact with circles (one in Catgut), described where a project which they considered too complex had been undertaken by the circle. The change proposed was implemented "but it was disastrous and we had to revert to the old (system)".[1] A similar case was described in Premium Needles where the circle was investigating the causes of faulty second edges on needles:

> "The project chosen by Premium Needles QC, they had no chance of solving with Ethicon's resources - even the US had only achieved marginal improvements. The girls got bogged down - they had no technical background to solve problems - they spent months on the project and got nowhere, they were frustrated in the end".[2]

Generally, there was a consensus among those interviewed that it was almost impossible to identify more than a handful of projects which were on the right level of difficulty and complexity, were within the control of the circles area of work, did not encroach on the manager's job or another department, and would lead to genuine cost savings or environmental improvements.

1 Interview 11.6.86
2 Interview 10.6.86

As shown in Table 7.3, two items in the survey of quality circle members related to this issue; in item 7, members were asked to state their level of agreement with the statement:

> "Any information the quality circle requested was made available".

Of the 58 respondents, 8 (14%) strongly agreed, 34 (59%) agreed, 5 (9%) were undecided, 7 (12%) disagreed and 2 (3%) strongly disagreed.

Secondly, to item 8,

> "The quality circle was free to look at any problem",

6 (19%) strongly agreed, 29 (50%) agreed, 4 (7%) were undecided, 15 (28%) disagreed and 3 (5%) strongly disagreed; in other words, over 40% of the respondents did not agree that circles had the freedom to choose any topic for investigation.

(b) When a quality circle had completed their investigation of a chosen topic, they presented their proposed solution or findings to a group which comprised representatives of management, a foreman and sometimes directors of the company. If the proposal was accepted by the management, it was considered for implementation.

Circles were instructed to hold a presentation when appropriate but not expect instant responses to their suggestions. The format of the presentation was fairly strictly controlled. It was attended by the manager of the department involved and by others, including senior management and directors, as appropriate. The circle leader and members illustrated their presentation with factual material, usually presented graphically with the help of charts, graphs and overhead projector slides. Considerable attention was paid to the form of the presentation as well as to its content.

As shown earlier, members of the QCDC considered that many employees who had taken part in quality circles had benefitted from the presentation. While some managers agreed,[1] other were less impressed:

> "I attended the presentation and said it was first class - only in the interests of motivation. I was lying, kidding everyone on ... The Engineering QC had merely reinvented the old system ... I could see early on that they didn't know what they were talking about - they presented it as a Eureka job, thought they could make history ... QC was the biggest con there ever was, the presentations were just to show that the shopfloor could speak ... they'd be better off if their manager could give them something to do ... it's foreign to them to stand up on a platform".[2]

1 Interview 21.11.84
2 Interview 21. 3.85

This rather harsh view was not widely held, although many of those interviewed shared some reservations. The manager quoted above believed that he had some tacit support from one of the directors, who himself never strongly supported quality circles at Ethicon.

Another manager felt that attendance at presentations was another burden added to his job by having circles in his department;[1] neither did the manager feel he could criticize the circles presentation or proposal when a director was present who supported them:

> "No manager would disagree with what the QC has suggested with top management there to see what he thinks ... it's more than the opinion is worth".[2]

Among some of the interviewees, there was a belief that the facilitators were too closely involved with the circles' preparation for the presentation:

> "The Facilitators played up the final presentations, wanted photos, videos, publicity, not for the QC, the circle didn't enjoy it. The Facilitator got the kudos from it, it became an extension of the Facilitator's ego, extension of the Facilitator's personality".[3]

1 Inteview 21.11.84
2 ibid
3 Interview 4. 6.86

Some quality circle leaders found the presentations "nerve racking";[1] some were criticized for doing too much:

> "I know one QC leader who did all the work so it was right and not a mistake. Great presentation but the QC leader did all the slides, all the technical data, the presentation was orchestrated by him. The girls felt that it would have been better if they had stood up and made mistakes".[2]

Everyone interviewed agreed that the presentations were a source of stress for the circle leaders and members; they were divided on whether or not they were worthwhile. Those managers who opposed circles sometimes used the presentation as an occasion to express this opposition:

> "The QC group did the presentations after the final stage, the manager said 'we're going to drop that next month anyway' and pretended not to know what the QC had been working on".[3]

The leader of one circle in Engineering illustrated this point with the experience his own circle had had. The project chosen was the accuracy of the worksheets used for calculations of bonuses. The circle members were aware that the manager was not keen on circles but felt they could succeed without his active support. At the management presentation, the managers who were opposed to circles voiced

1 Interview 20.2.85
2 Interview 10.6.86
3 Interview 8.4.86

their annoyance: they knew of the problems described in the presentation but "did not want them laid out and quantified for all to see ... They used the opportunity to sound off against the QC".[1] This circle ceased operation after this, their first, presentation.

Obviously, these situations should not arise. In the training, circles are instructed to keep the lines of communication open, and keep the managers informed about the projects circles are working on. However, it seems that some managers knew they could damage the circle more by coming down on them at the later stages in their investigation. While many circles may have seen the presentation as the conclusion of their contribution, the effectiveness of their proposal could be judged only if it was implemented and evaluated in operation. There was almost a complete consensus among those interviewed that circles began to encounter difficulties at the implementation stage. One manager claimed he had implemented the circles solution only so that he could be seen to be supportive;[2] another claimed that the enactment of circles' solutions took place only "because of the QC stamp".[3] In some cases, it

1 Interview 12.2.85
2 Interview 21.3.85
3 Interview 8.4.86

was claimed proposals from circles were unfairly given priority.[1]

Rieker (1977b) is quite explicit about quality circles' authority in this area:

> "Nothing about QC Circles sets up any special authority structure or system to by-pass the normal way of approving and making changes... Management retains the right to make all decisions they have already reserved to themselves - QC Circles does not usurp any of their decision-making authority, (management) will not always accept the solutions presented by the Circle. The Circle must be prepared to accept some disappointments ... it is necessary that they (management) give valid reasons to the Circle for not approving and implementing a recommended solution ... if it is missing, QC Circles can be expected to dry up and blow away" (pp. 7-5, 8-6).

As predicted by Rieker, some circles at Ethicon did "dry up and blow away" when they encountered difficulties in having their solutions implemented:

> "QCs were misled about getting projects implemented, they thought that the outcome would be more easily achieved".[2]

> "One QC folded because the solutions they suggested took a long time to happen. The members were not aware of the time constraints involved in getting decisions made or changes implemented".[3]

> "Failure to implement solutions meant that QCs got fed up waiting in the queue ... the QC should have chased it up and questioned why their proposal was held up or not accepted".[4]

1 Interview 21.3.85
2 Interview 11. 6.86
3 Interview 21.11.84
4 Interview 20. 2.85

> "Very rarely were projects followed up, QC made recommendations, three weeks later they were forgotten, six months nothing happened".[1]

Some managers felt that in some cases the solution proposed had been tried before and had failed,[2] and was not worth trying again.

Finally, on this issue, the views of the circle members indicate that almost 50% did not feel that the explanations given to them when a recommendation was not implemented were adequate (see Table 7.3, Item 11).

(vi) Resources

The question of adequate resources was one which was never completely resolved for the quality circle programme at Ethicon. In its early analysis of the programme, the company took into account the financial costs:

> "In considering the introduction of Quality Circles in 1980, we, as a company were aware of the likely ongoing cost of our commitment. This we accepted as a consequence of our objectives of developing/ involving our employees in some form of decision-making albeit at a fairly low level".[3]

1 Interview 4. 6.86
2 Interview 21.11.83
3 Cost-benefit Analysis

The breakdown of costs shows that in the first three phases, January 1981, May 1981, January 1983, £4,260 was spent on training resources and courses and £14,000 paid to the Consultant. Ongoing costs of operators attending meetings were calculated using the formula: Number of Quality Circles X Number of Members X Approximate Number of Meetings X Estimated Hourly Rate. (No parallel calculation is attempted to cost the time spent by managers or supervisors in quality circle activity). However, while the formula seems acceptable, it appears to overestimate the ongoing labour costs by a factor of 100: instead of the cost shown as £2,072 for the period January - May 1981, it is given as £207,200.[1] However, the analysis is unclear about the precise method of calculation.

In a presentation to Ethnor, Paris, a sister company, the Personnel Director assessed the labour costs for 18 circles to be £8,000 per annum.[2] The figures estimated by a senior personnel manager in 1983 was training costs of £18,000 and running costs of £13,000 per annum.[3] The circles did have their own budget but it was spent mainly on running seminars and allowing facilitators, leaders and members to attend outside meetings.[4]

1 Cost-benefit Analysis
2 Internal paper, Presentation to Ethnor, Paris, Personnel Director, 25.9.81, p.10
3 Presentation to J&J European Conference, Paris, 5.5.83
4 Interview 9.6.86

From the circles' point of view, a more immediate problem was the securing of adequate physical resources, such as a well equipped room for meetings. The minutes of the QCDC's early meetings show that the issue was raised and various suggestions proposed:

> "The question of a permanent place for circles was discussed again ... (The Personnel Director) offered to investigate the feasibility of a Portacabin for the use of Quality Circles. In this way, a semi-permanent facility would be at the disposal of circles".[1]

In May 1981, it appeared that a room was available: by the next meeting it seemed that the room in question "will be required more often than was originally stated to the Development Committee".[2] Gradually the room was equipped with chairs, overhead projectors and other items, and an attempt was made to develop a system of recording removal of equipment from the room.[3] From April 1982 onwards, there were a number of changes of room and relocation of circle meetings. In October, the Auditors took the room over without informing the QCDC and in January 1983 it was used for Sales Training. At the January meeting, the problem was aired again:

> "Once again, concern was expressed on the number of occasions when the QC Room was unavailable, and to the difficulties in finding alternative accommodation".[4]

1 QCDC Minutes, Meeting No 4, 27.2.81
2 QCDC Minutes, Meeting No 10, 28.5.81
3 QCDC Minutes, Meeting No 18, 4.3.82
4 QCDC Minutes, Meeting No 29, 10.1.83

In February 1984, the QC Room was "earmarked for a Telephone Switch Room Exchange"[1] and the QCDC again began a quest for a suitable room for quality circle meetings. Eventually in April 1984, a full circle is reached:

> "The imminent demise of the QC Room and the difficulty in booking the Board/Conference Room ... continues to be a practical problem. Executive Group Meetings, Live for Life and Departmental Meetings restrict the use of this accommodation. One possible solution to this problem ... is renting or buying a Portacabin which could be used by QCs and others".[2]

Finally, when the members of the QCDC requested support from the Manpower Policy Board to allow circles to continue, they requested among other resources, accommodation and facilities to support the circles: the Board agreed that this was essential in any re-launch:

> "If we are serious and genuine in our commitment to QC's, we should be prepared to devote the one room necessary for the exclusive use of up to ten QC members at a time, allowing also for secure storage of QC training and implementation aids".[3]

However, as the relaunch did not take place, the question of a room remained unanswered.

To those interviewed, accommodation for circle meetings was a significant issue:

1 QCDC Minutes, Meeting No 39, 9.2.84
2 QCDC Minutes, Meeting No 42, 26.4.84
3 Manpower Policy Board Response to the Quality Circle Development Committee's proposals on the Rejuvenation of the Ethicon Quality Circle Programme, 6.6.85

> "There was never a room for the QCs to meet in. We complained over and over - it showed poor organisation and lack of commitment, caused frustration to QCs, not having OHP screen etc. Things went missing".[1]

> "Facilities were very poor for meetings, never resolved ... the QC would end up wandering about looking for a room. The room which was there was poor, facilitators often had to chase a room".[2]

In terms of expertise available to the circles as a resource, there is little to add to earlier observations on Training and Facilitation. The company was prepared to provide the financial resources to launch the circles and to maintain ongoing training and orientation courses for middle and junior managers.

The regular meeting time of circles was essential to allow them to develop their projects, collate data and when appropriate, prepare for management presentations. There was some evidence that department managers were reluctant to release members for meetings or would ask the supervisor/quality circle leader to postpone a meeting, using production pressures as an excuse.[3] A foreman stated his position clearly:

> "After the initial euphoria, I began to bitterly resent that time, 8 or 10 hours a week they were spending. I needed that time. In my view, they were away wasting the time I needed for production. I tried to talk the QC out of it by approaching the Facilitators - the project had no chance of succeeding".[4]

1 Interview 9.6.86
2 Interview 11.6.86
3 Interview 8.4.86
4 Interview 10.6.86

However, other foremen felt that loss of production time was not a major problem:[1]

> "The supervisor and foremen are judged on figures by the Executive Groups, QCs might affect the available time for machine utilization and output - was not a problem as it turned out".[2]

The circle member felt that there was not always time available for meetings. In the survey, less than half felt that management always made time available (see Table 7.3, Item 4).

Finally, under resources, comes the question of how the quality circles were rewarded. Claims were made that projects undertaken by circles had

> "netted approximately £14,000 per annum with more and larger cost savings still to come".[3]

In line with circle philosophy, no financial rewards had been offered to circles. However, it appears that the QCDC's request to the Manpower Policy Board to help rejuvenate circles might have altered the company's view. Asked to "change the rules to encourage more active support",[4] the MPB was prepared to reward circles financially when projects showed cost savings. Fifty per cent of the first year's cost savings was to be shared among the circle members. If the project was not

1 Interview 8.4.86
2 Interview 11.6.86
3 Presentation to J&J European Conference, Paris, 5.5.83
4 Quality Circles - Future within Ethicon Limited, Scripts for meeting of QCDC with Manpower Policy Board, 25.4.85

directly cost saving, but contributed to quality of working conditions or procedures, a shared award of £50 would be given to the circle. Both awards "would require to be justified through implementation by the QC itself.[1] The suggestion scheme would be discontinued. As indicated before, with the subsequent decision to disband circles completely, these proposals were dropped.

(vii) Relationship with Management and with Non-members

From its inception at Ethicon, the quality circle programme had an uneasy relationship with all levels of management. On specific issues dealt with above, for example, project choice, presentations, facilitation, the difficulties which arose have been described.

As this is an extensive topic, each level of management will be dealt with separately.

The general feeling among those interviewed was that, with perhaps one exception, the senior managers and directors were supportive of the quality circles. As evidence of this, some referred to the fact that the initial impetus to start circles had come from two of the directors.[2]

1 Manpower Policy Board Response to QCDC's Proposals on Rejuvenation of the Ethicon Quality Circle Programme, 6.6.85

2 Interview 21.11.84

Where senior managers were considered to be at fault, the criticisms of them were that they did not make quality circle issues sufficiently important to their own subordinates,[1,2] but allowed the lack of support from some department and middle managers to persist. One facilitator felt that managers who did not support circles should have been 'leaned on' by the director and made to support circles just as they are expected to support other aspects of company policy and strategy.[3]

The members of the circles in the survey concurred with the predominant view: over 80% of the respondents felt that senior management supported the circles, only 4% considered that there were any opposed (see Table 7.5).

Table 7.5 Support for Quality Circles - Members' Opinion (Percentages)

N = 58	Strongly Sup-portive	Sup-portive	Undecided /Indif-fererent	Opposed	Strongly Opposed	No Answer
Senior Management	34	**48**	14	2	2	0
Middle Management	16	**48**	21	9	0	7
Foremen	16	**33**	29	3	7	12
Supervisors (Non QCL)	14	22	**28**	17	5	14
Employees (Non QCM)	9	17	**41**	17	10	5

1 Interview 8. 4.86
2 Interview 9. 4.86
3 Interview 20. 2.85

On the more general question of management support, almost half of the members who responded did not feel there was strong support for circles from management (see Table 7.3, Item 2).

Clearly, the senior management did recognise a certain degree of resistance within the company:

> "Initially, there was considerable cynicism amongst middle managers and some senior managers, who imagined that they might lose some control of their staff. There was also a fear that circles might either expose previous management delays and shortcomings or become greeting meetings".[1]

The Personnel Director, in his presentation went on to describe how he felt Ethicon had persuaded these managers to support circles. He outlined three measures taken: first, use of presentations showing full Board of Directors support: second, keeping departmental channels of communication open to relay the activities and progress of the circles to department managers, and third, using 'middle' managers (production managers) drawn from other departments as facilitators to ensure "liaison and communication with the Circles' line management".[2]

Note: Ethicon's use of the terms middle and senior managers is not always consistent. To avoid confusion, the term 'middle management' will be used only for Foremen; managers above them but not directors will be termed 'department managers' or 'production managers'.

1 Quality Circles, Presentation by Personnel Director, Ethnor, Paris, 25.9.81

2 ibid

The singular lack of success of these three measures has already been remarked on; indeed, the use of outside managers as part-time facilitators became, in itself, a serious cause of disquiet and dissatisfaction for department managers.

Much of the resistance from department managers who had quality circles within their department was caused by their dislike of having "a group poking around"[1] over which they had no direct control:

> "They felt left out of meetings with their supervisor and a manager from another department acting as facilitator. This led to moans and groans. They felt they had lost control of it".[2]

Neither did the information passed to the manager prove sufficient:

> "The minutes did not keep the manager up-to-date. It was assumed that the manager would approach the QC but the manager was not interested enough to ask".[3]

> "Managers could not approach the QC leader or members directly for information. The formal channel of communication was through the facilitator and the manager was only given the minutes which were very uninformative".[4]

In many interviews, two or three managers were singled out as being seen as particularly opposed to quality circles.

1 Interview 11.6.86
2 Interview 8.4.86
3 Interview 8.4.86
4 Interview 4.6.86

The reasons for their opposition were speculated upon, it was suggested[1] that one felt he should have been invited to act as a facilitator; another who had previously tried a group problem-solving approach in his own department which had not succeeded may have felt that circles were no improvement on them.[2,3]

Throughout the period in which quality circles were operating, various initiatives were taken to draw all levels of management further into the programme. In 1983, the QCDC began a revitalization programme, stepping up publicity for circles by publishing articles in Tie-Line, distributing pens and badges, and using stickers to identify successful circles projects. After a meeting of the QCDC with departmental managers in May 1983, a number of recommendations followed including:

> "Departmental Managers, in conjunction with Foremen and QC leaders would be asked to identify and supply a list of no more than six projects that could realistically be used for QC project work".[4]

While this may have helped solve the problems of project identification, it did little to resolve the situation caused by the poor relationship between facilitators and managers. From the following meeting, a more radical solution is proposed:

1 Interview 4.6.86
2 Interview 8.4.86
3 Internal Memorandum, Production Manager to Personnel, 24.4.84
4 QCDC Minutes, Meeting No 33, 26.5.83

> "Investigate the feasibility of managers acting as facilitators for the QC within their own department".[1]

This suggestion does not re-appear but is displaced by a request from the QCDC for a full-time facilitator, as described above.

In their presentation to the Manpower Policy Board, the QCDC identified lack of management support as a possible reason for the failure of some of the quality circles. In requesting support to rejuvenate circles, the QCDC outlined some changes which they felt were necessary:

> "It is felt that as far as other supervisors, foremen and managers are concerned, Quality Circles should be made equal to production, cost, quality, morale and safety ... To this end, actively supporting and encouraging Quality Circles should be written into Job Descriptions so that Managers are held accountable for the Circles in their area".[2]

This point is not picked up by the Manpower Policy Board in their response. However, it did come up frequently in interviews:

> "We should have made circles compulsory for managers. Those supporting QCs did not have the authority or clout, managers can be very obstructive in ways which damage QCs".[3]

> "QCs cease to be voluntary for managers once the company has become committed to it. Crucial people did not share that outlook and were less than helpful ... on some occasions were frankly obstructive - to operators, they would pass comments on QCs, pass on their attitude, not to directors".[4]

1 QCDC Minutes, Meeting No 34, 30.6.83
2 Quality Circles - Future within Ethicon Limited, Scripts for Meeting with Manpower Policy Board, 25.4.85
3 Interview 8. 4.86
4 Interview 8. 4.86

Other did not agree, arguing that managers could not be held accountable for something over which they had no direct control, no responsibility.[1]

During 1984, PA International had undertaken a company attitude survey at Ethicon and included three questions on quality circles. Three relevant results are shown in Table 7.6.

Table 7.6 PA International Survey of Employee Attitude to Quality Circles[2] (Percentages shown in brackets)

	Very Important	Impor-tant	Un-decided	Not Important	Not at all Important	Total
Importance of Quality Circles to Management	150 (26)	108 (19)	**211** (**37**)	54 (9)	52 (9)	575 (100)
	Strongly Agree	Agree	Un-decided	Disagree	Strongly Disagree	Total
Quality Circles give employees an opportunity to partici-pate in making changes	**194** (**34**)	128 (22)	144 (25)	54 (9)	54 (9)	574 (100)
	Very Inter-ested	Inter-ested	Un-decided	Not Inter-ested	Not at all Inter-ested	Total
Interest in joining a Quality Circle	84 (15)	41 (7)	103 (18)	83 (14)	**267** (**46**)	578 (100)

1 Interview 12.10.84
2 PA International Survey, Ethicon, 1984

Of the 575 employees who answered the relevant question, only 45% felt that their manager considered quality circles to be important; 37% were unaware of the manager's attitude. 56% of the employees who answered the subsequent question felt that circles provided an opportunity for employees to participate; however, only 21% were interested in joining a circle (39% if those undecided are included), a low figure but higher than the level of circle membership at any time. The survey in this research of quality circle members indicated that about two-thirds of the respondents felt that managers supported circles (see Table 7.5).

To a later question asking if they felt those who had taken part in circles would be willing to join a similar group again, 54% indicated their agreement; in other words, 46% felt previous members would not want to join a similar group (see Table 7.3, Item 9). On the other hand, almost 90% considered that being in a circle was an enjoyable experience (Table 7.3, Item 1).

Foremen shared many of the attitudes held by their managers towards the quality circle programme. To a large extent, their negative attitude can be attributed to the way in which circles were introduced into the company. Both production managers and foremen had been told that they should keep a distance from the circles and allow them to operate independently. However, this soon proved a major problem for the circles:

> "It was a tactical error not involving managers - at the end of the day we were snookered by managers who did not support QCs".[1]

> "In retrospect, problems arose because foremen level was left out of circle development at the beginning. The emphasis was largely on department managers, supervisors and circle members. The foreman was left out, not informed about what the supervisor's training was about or how circles would affect their department, later, we realized this was an error".[2]

> "For foremen, it started badly. They were missed out at the beginning, an oversight but a bad one. Everyone remembers it. When their help was needed - "think we can help out?" - feeling was bad".[3]

Many of the foremen interviewed felt that these criticisms of them were unjustified:

> "It was all a bit iffy. It was assumed that middle managers would be obstructive and they took an aggressive stance. Ninty nine per cent of the middle managers were keen".[4]

> "Foremen and managers were not obstructive at all but made scapegoats".[5]

Nevertheless, the perceptions of others were that the foremen were not prepared to help circles,[6] or at best were indifferent.[7,8]

1 Interview 8. 4.86
2 Interview 12.10.84
3 Interview 8. 4.86
4 Interview 11. 6.86
5 Interview 4. 6.86
6 Interview 9. 6.86
7 Interview 12.10.84
8 Interview 20. 2.85

The QCDC addressed this problem and in 1982 began to invite foremen to attend their monthly meetings. As with the department managers, meetings with middle and junior management were held in June 1983 to ascertain what role they could play in the revitalization of circles. As reported by the QCDC:

> "Foremen are to be encouraged to play a more active part in their respective circles by acting as a stand-in circle leader during periods of holidays or absence of the current Circle Leader".[1]

There was no evidence in interviews or from subsequent QCDC meetings that this had taken place.

Junior management were affected to the extent that, for some of them, employees from their area were in quality circles under the leadership of another supervisor. At Ethicon, there were instances where a circle was composed of employees all from the same department but drawn from different work groups.

The survey of circle members indicated a strong lack of support from both foremen and supervisors (non-circle leaders) as shown in Table 7.5: less than half of the respondents felt that foremen supported quality circles, while almost two-thirds considered that supervisors were either indifferent or opposed to them.

1 QCDC Minutes, Meeting No 34, 30.6.83

The potential for problems in the relationship between circles and their non-circle colleagues was recognised by the Co-ordinator of the circle programme:

> "On the topic of communication, there is fear that the 'magic circle' syndrome will develop. Employees not involved in QC's may see the six or seven employees disappear each week to take part in the 'magic circle' without knowing exactly why or what they are tackling".[1]

As shown in Table 7.5, only 25% of the members considered that non-members were supportive, the majority were felt to be either indifferent (41%) or opposed (27%). The interview data bear this out.

> "At Fountainbridge, the non-QC members, employees regarded QC activity as wasting time. Too few people were interested".[2]

> "Non-members have shown no real animosity. There may be a certain amount of sarcasm, using terms like 'magic circles' or just ignoring the QC".[3]

> "In Sighthill, a QC group would stick out. The support was too thinly spread, and there was a lot of resentment from non-members - 'away for a skive'".[4]

> "People got called a 'right crawler', 'right creep' for joining circles.[5] People got talked out of QCs by others".

1 J&J European Conference Paper, Paris, 5.5.83
2 Interview 12. 2.85
3 Interview 21. 2.85
4 Interview 8. 4.86
5 Interview 9. 6.86

Both facilitators and quality circle leaders felt that circles did not always attract the people who had most to offer.[1] In other cases, when members left they became extremely critical of the circles.[2]

A number of reasons were put forward to explain this lack of interest or opposition from outsiders. Some foremen felt that the non-members suffered from lack of information about what the circle was doing,[3] and the circle itself did little to remedy the situation. The QCDC was inclined to dimiss this as a non-problem:

> "It was brought to the attention of the committee that some employees have expressed concern as to the lack of information on QC activities particularly within their own department ... the Committee felt that this was partly due to employee apathy to read QC minutes published on specific QC notice boards within their department".[4]

Foremen also felt that the Incentive Operators were less enthusiastic because they are very bonus conscious and do not like to be interrupted by breaking off to attend a meeting.[5]

To some, lack of interest in circles was considered indicative of a more general instrumental attitude:

1 Interview 12.10.84
2 Interview 9. 6.86
3 Interview 11. 6.86
4 QCDC Minutes, Meeting No 31, 6.4.83
5 Interview 11. 6.86

> "The operators in Attaching are not interested, they come in to make money. Young women, early 30s, husband, small children, some friends but comes into work only for the money".[1]

> "Some would not go into circles ... his job was come in, produce needles and leave at finishing time. He needed rules and would resign if things did not go more quickly".[2]

> "Ethicon is a good company, secure, pay, good conditions. Operators give only what they get back out and from QC point of view, the majority did not care less. They were not interested in something they will get nothing out of".[3]

Others saw it differently:

> "In Needle making, all the QC members were from one shift - they got nothing from the other shift who did not want to be involved, an element of jealousy, resentment of the status given to the QC".[4]

The indifference or opposition of non-members, while problematic, did not undermine the circles to the same extent as lack of support from management did. However, it did make their task more difficult. There were situations where the circle needed non-members to collect data or to keep records on check-sheets but could not get this co-operation.[5] In Braiding, a circle leader described the initial reluctance on the part of the non-members to adopt the circle's suggestion, even though all came around to it later.[6]

1 Interview 4. 6.86
2 Interview 8. 4.86
3 Interview 9. 6.86
4 Interview 10. 6.86
5 Section E1/X - Quality Circle Development, May 1983
6 Interview 12.10.84

Finally, some managers saw the indifference of non-members and the poor performance or failure of circles as indications that shop-floor employees are either not interested in or not capable of participating in decision-making in a meaningful way:

> "People are not really interested in involvement. The shop-floor and the manager working together would be better than any QC".[1]

Others felt that a negative experience with quality circles could be harmful later:

> "With QCs having finished, there is a danger that people who were on the edges could become cynical - they might see QCs as merely lip service to participation".[2]

7.3 IBM, Greenock

7.3.1 Company Background

The IBM plant in Greenock is one of the largest manufacturing plants in the American-owned corporation's European operations. Approximately 3,000 employees work there on a two shift system, with about 250-300 managers. The principal products manufactured at Greenock are hardware items for the personal computer, keyboards, displays and so on. As with all IBM plants, the plant at Greenock is relatively autonomous and competes directly on quality and cost with other European IBM plants. There is considerable investment in automation. With short product life - two years - it is recognised that the manufacturing capacity must allow rapid change to new products.

1 Interview 21. 3.85
2 Interview 8. 4.86

While other plants in Europe, for example in France and Italy, are unionized by law, there are no trade unions in Greenock. The principal means by which employees can 'negotiate' with management is through the Advisory Council, a body unique to Greenock which comprises annually elected representatives from both geographical and working areas of the plant. This group, which meets monthly, does not deal with wage negotiation but with issues of safety and security, environment and conditions of work, benefits packages, mechanisms for promotion and work processes including quality circles. A formal appeals channel exists in the "Open Door" process where a dissatisfied individual can appeal to the UK Chairman of IBM. The problem is automatically investigated. In about 25% of cases, management decisions are changed or reversed. Employees can also raise issues of interest through the "Speak-Up" programme where, using a standard form, the employee can bring up a suggestion or problem which the manager to whom it is addressed must deal with either by replying or by passing the problem on (see Appendix VI). A fairly typical issue raised could be to ask for clarification of the company's policy on smoking at work; the largest number of criticisms are concerned with cafeterias, the working environment and office and administration procedures.

In general, line management is expected to deal with problems which may arise; Personnel provide an advisory service and ensure that there is some standardization in management practice.

7.3.2 Data Collection

Initial contact with IBM Greenock was made in January 1984 when, following telephone introduction, I met the Quality Programmes Co-ordinator who agreed to allow me to interview managers involved with the quality circles. In all, four visits were made and fourteen interviews conducted. As indicated in the previous chapter, it proved more difficult at IBM than at any other organisation to obtain the views of the cross-section of managers; the interviews were arranged through the Quality Programmes Co-ordinator who was highly selective in his choice of managers as interview subjects. In addition, on the second visit, he stayed in the room while the interviews were in progress and may have inhibited some of the interviewees. Nevertheless, on the later visits, the arrangements were less formal and it was possible to spend more time with the managers and establish a rapport during the interview.

7.3.3 The Quality Circle Programme

The Quality Circle Programme at Greenock was one element in a drive for improved quality throughout the plant under the logo "Right First Time". In 1981, senior management made a presentation to functional managers about quality circles. Leader training began soon afterwards and was compulsory for all managers. As part of the quality drive, all functional managers were required to produce annual quality targets for their department which would be reviewed and revised by a Quality Council. The aim of the quality circle programme at

this stage was to have circles run by all managers as part of their objectives and as a means of developing their management skills. As a significant feature of the quality campaign, the success of Japanese industry in its pursuit of excellence and quality was emphasised and the link between quality circles and product quality made explicit.

On a visit to IBM, Greenock in February 1985, the Quality Programmes Co-ordinator admitted that the quality circles had had "a disastrous start",[1] with few of the original circles still in operation. With all managers compelled to start circles, many had paid lip service only, they had never really wanted circles and many circles and failed. Nevertheless, over 100 circles were registered and were operating in 1985, most of them led by managers. The managers not interested in circles could opt to run Quality Improvement Teams (QITs) which were in some ways similar to quality circles but were management led and directed, with little choice for members over choice of projects.

The growth of circles at IBM Greenock was slow and steady. A circle would disband if no project was available and re-form if a problem arose which needed investigation. Membership of a circle could vary according to the project under investigation. If more members wished to join, a circle could divide so that two new circles would be formed.

1 Interview 15.2.85

In 1985 and 1986, the programme remained at the same level of participation. It was hoped that some QITs would become quality circles and that the circles would themselves evolve so that they became vehicles for change.

There was a widely held view that the quality circle programme was successful. However, it was not clear by which measures this success was judged. From the Quality Programme Co-ordinator and the Quality Circles Facilitator, the strong impression gained was that success was measured by the level of participation and the number of circles operating at any one time - quantity seemed more important than quality.

As indicated earlier, a primary aim was to develop managers in small group leadership. Similarly, for individuals involved as members of the circles, it was hoped that their expertise would be developed according to their aptitude.[1]

The circles at IBM, Greenock were unusual in that about 25% were interdepartmental or cross-functional, that is, their membership was drawn from a number of work areas. One circle leader, not himself a manager, felt that this mix of people helped to solve complex problems and drew those most closely involved with the problems together.[2] A Quality Engineer, leader of a circle in procurement, described how the members of his circles were trained together as a group, even though they

1 Interview 8.8.86
2 Interview 15.2.85

all came from different work areas.[1] This latter circle had also involved a vendor with whom problems had arisen and, with the assistance of IBM, a circle programme had been initiated in the vendor organisation. There was a strong feeling among those interviewed that the cross-functional circles could investigate problems which otherwise were difficult to sort out, because no group was responsible for them. Some practical problems arose, for example, over the scheduling of meetings, but these could normally be sorted out by the circle itself. Flexibility of membership was a significant feature of circles; some individuals were members of two circles, one cross-functional and another in their own department. Membership of a circle also varied according to the expertise needed to solve a specific problem.

As in Ethicon, selection of suitable topics for investigation was problematic. Some of the early circles had had difficulties identifying appropriate projects and had died,[2] but had been resurrected later and gone on to perform successfully. One circle leader felt that brainstorming was a useful device in producing a large number of ideas but on closer examination, they sometimes turned out to be closely related and could be just one problem in a range of guises.[3]

1 Interview 15.2.85
2 Interview 15.2.85
3 Interview 15.2.85

This leader also commented on the difficulties caused for the circle when projects ran out, after perhaps a year of operation. However, he felt that at IBM change was a constant feature and the rate of change often meant that new problems arose which, in turn, stimulated new projects.

With managers as leaders of circles, some specific issues arose. One leader described how his circle expected him, as their manager, to "make things happen"[1] and that he felt this was a perpetuation of the usual relationship between managers and subordinates rather than an impetus for something new. The circle members might be reluctant to accept responsibility delegated to them within the circle. However, he conceded that the quality circle could also act as "a protective device" and encourage members who might otherwise stay silent rather than be exposed to ridicule to speak out - there was less fear of the manager and of his authority in a circle.[2]

Another manager/circle leader described how projects were identified in his circle.

> "You can't exactly tell them what to do ... but you can lead them to the problem in a roundabout way".[3]

He felt that the members were not the volunteers but "army volunteers", which he thought was typical of IBM, Greenock.

1 Interview 15.2.85
2 Interview 15.2.85
3 Interview 27.3.85

From a department of 18, he thought it unlikely that he would get a sufficient number to attend unless there was some subtle pressure:

> "I'd let them know I was disappointed at their non-attendance and let it go from there".[1]

Others felt that the members enjoyed the meetings and described the competition between members to be healthy.[2] Most of those interviewed agreed that the circles could be said to be management driven. The Quality Programmes Co-ordinator and Facilitator consider that this was inevitable and indeed contributed to the success of the circles - without management support up-front, the programme would not succeed.[3]

All leaders and members of quality circles were trained in the problem solving techniques but most claimed that they made little use of them once the circle had settled down. One manager, who was in the process of starting a circle, felt that the techniques made the problem-solving too formal - he preferred to emphasise the outcome rather than process.[4] Neither did the circles stick to the regular meeting time. A number of circle leaders/managers mentioned the difficulties they had in making time for the meetings; some had introduced a 2-3 week cycle for meetings, considering that weekly meetings were unnecessary.

1 Interview 27.3.85
2 Interview 27.3.85
3 Interview 8.8.86
4 Interview 27.3.85

The circle programme seemed well resourced. The budget allocated was for training and support not for implementation of solutions.[1] Nonetheless, there was a proliferation of badges, wall plaques, cup rests, pens, notepads and so on which were used to promote and publicize the circles. Successful circles were also invited to make presentations at Quality Lunches which were attended by the Plant Manager and senior European managers. The in-house paper regularly carried one or two half-page spreads on the circles and their recent successes. A room was available for meetings but more often circles met in the parent department.

While the circle programme seemed healthy, it was clear that some apathy and opposition existed. The initial reluctance on the part of some managers had not been overcome; the impression given by the Quality Programmes Co-ordinator was that some managers would never want circles, particularly those who were older and involved in quality assurance.[2]

Everyone interviewed agreed that senior management at Greenock supported circles. While this was felt to be important, it was also suggested that the initial directive from the top to every manager which compelled managers to start circles had been counterproductive,[3] though the bitterness created had largely been forgotten. The failures of circles during the five years of the programme's operation was put down to a range of

1 Interview 8.8.86
2 Interview 15.2.85
3 Interview 27.3.85

factors, for example shortage of suitable projects, pressure of work making it difficult to allocate time to circles. The principal cause of failure, according to the Co-ordinator, was "management apathy"[1] where line managers opposed or indifferent to circles would not acknowledge their contribution and resource their proposals. He considered that the second-level managers were most opposed to circles - the task-oriented managers. In some cases, the circle was led by the manager below him in the department concerned. In others, there had been a change of attitude by the reluctant manager.

Overall, the flexible approach to quality circles at IBM, Greenock appeared to work for them. However, it is questionable whether what they were running there were really quality circles - at every turn, they were prepared to change the rules to suit themselves and seemed unconcerned that they were not following the normal pattern, provided that they had produced results.

7.4 Hewlett Packard, South Queensferry

7.4.1 Company Background

The South Queensferry plant of Hewlett Packard employs about 1,100 people of whom about 300 are direct labour. It is part of the Telecommunications Division of the American owned company and assembles electronic components used in telecommunications. As part of the corporation, the plant is relatively autonomous with local management responsible for the

1 Interview 8.8.86

operation of the plant. A worldwide recession in the electronics industry affected the plant in the mid-1980s, when all recruitment was frozen and employees were asked to accept a 10% cut in pay.

Employment relations are considered excellent with no disputes since the plant opened. There are no trade unions at Hewlett Packard, no negotiations on pay nor any consultation groups. Employees are merit rated.

7.4.2 Data Collection

Initial contact with one of the programme co-ordinators in 1984 was followed by separate interviews with two managers in late 1984. A return visit was made in 1986 to ascertain the reasons for the programme's demise.

7.4.3 The Quality Circle Programme

Senior Management in personnel and quality control at the South Queensferry Plant had become interested in circles in 1980 but on further investigation had decided not to start a programme as they felt that the time commitment to make them work was too high. In other Hewlett Packard plants in Japan and the USA, circles had been operating successfully for many years; the Japanese company was thought to have about 400 circles. About this time, 1980-81, the parent company made it known that there was corporate support for quality circles and was actively encouraging the general managers of the various plants to start circle programmes. Hewlett Packard, South Queensferry then

went ahead with the strong support of the plant manager and the senior management team. Of the 7 department heads initially one was against, 3 reasonably supportive and 3 enthusiastic. Following further explanation and a presentation from an outside consultant, Jim Rooney, ex-Rolls Royce Facilitator, a Steering Committee was formed, consisting of senior managers from Training, Quality Control, Personnel and Manufacturing. There was no specific presentation to middle managers at this stage but those who were thought to be interested were approached and asked to consider acting as facilitators. Two senior managers from Quality and Training departments acted as programme co-ordinators and each quality circle had a manager from another area acting as a facilitator. Quality circles were an extra commitment for everyone involved.

A request for voluntary quality circle leaders was well received and nine supervisors were chosen by lot from 25 to be trained. It was decided that the first circles should be in areas where there was a reasonable likelihood of success. The leader training was carried out by members of the Steering Committee using materials adapted from those used in the USA and other plants.

By January 1984, there were twelve circles in a variety of departments; stores, purchasing, production engineering, production, Research and Development. Twenty four projects had been completed and the results of each made known through a presentation. The implementation of the proposed solutions had

proved difficult with some circles becoming discouraged when their solution was not implemented immediately or did not prove to be a success on implementation. In some cases circles had hit the doldrums after the presentation when action did not follow immediately. Some circles had chosen projects which were considered over-ambitious while others had had considerable success, for example, the tool room circle. The important factors in the latter case were thought to be realistic projects, very good management support, high technical ability of members and a knowledgeable facilitator.

At the time of the early interviews, November 1984, it was clear that the commitment to circles was dwindling and there were no plans to expand the programme. From discussions with the Quality Manager, recently returned from the States, it appeared that the parent company was not satisfied with quality circles and was not putting any more resources into quality circle programmes.[1] It was proposed that rather than develop new circles, each unit should move towards Total Quality Control (TQC), a plant-wide, non-voluntary quality programme. The Chief Executive had circulated a memorandum to all plants expressing his disappointment at the progress of quality circles and their failure to become integrated into the business. He felt that "management were not owning the process"[2] and that the ingredients of circles, training and

1 Interview 22.11.84
2 Internal Memorandum

teamwork, were not getting through. He hoped that some of the skills acquired through quality circle activity would be used in the Total Quality Control programme. By July 1986, the programme had ceased operation and been subsumed under the TQC programme, which had priority over quality circles.

The major objective of circles in Hewlett Packard was people involvement and participation. This was seen as consonant with the management style and culture of the company, that is, allowing the workers opportunities to contribute to the company, to be listened to and have their ideas implemented. Cost saving was not an important objective for the circles and the management doubted if realistic cost savings could be reliably computed. In reviewing the programme after it had ceased, it was felt that the money savings had been negligible and the benefits achieved were all in terms of improved performance and solution of local problems. The people involved in the quality circles had taken on a higher profile, with some progressing onto other areas.[1] In their operation, the circles had had some settling-in problems but these were resolved when a room with storage space was allocated for their equipment and a timetable was drawn up to allow each circle a regular weekly slot. Non-members were generally indifferent to the circles' activities and showed no active opposition - the managers felt that non-members tended to favour projects which dealt with issues which directly affected the job.[2]

1 Interview 30. 7.86
2 Interview 9.11.84

The managers felt that part of the blame for a circle's failure rested with the facilitator; the pattern here was one facilitator per circle, all part-time, with the facilitator often a past manager of the department. In some cases, proposals had been made by circles which were unworkable particularly in cases of engineering problems. It was felt that the facilitator should have realized that the solution was not practicable or should have taken advice by inviting a specialist to the circle when the analysis of the problem was underway. It was recognised that a key role was played by the circle leader. If delegation was not carried out successfully by the circle leader, he/she often did a disporportionate amount of the problem-solving with the help of one or two circle members only, leaving many of the members passive. In some cases, the circle leader was not a supervisor and it was thought that while this had advantages in that he/she might have more time to devote to circle activities, in some cases a non-supervisor circle leader lacked authority and found it more difficult to get things done.

The other factors thought by managers to contribute to circle failure were the familiar ones; shortage of suitable projects, indifference of non-members, lack of production management support.

Training for the members was carried out by the leader during early meetings. It was suggested that circles did not use the full range of techniques put forward in training, particularly those which required a more sophisticated approach.[1]

The involvement of middle managers with quality circles in Hewlett Packard presented considerable problems from the outset. Initially the Co-ordinators and Steering Committee chose to start circles in areas where the local manager was known to support quality circles and few difficulties had arisen. However, opposition to circles from middle management gradually grew and at the same time, the circle programme began to lose momentum and a few circles disbanded. The Co-ordinators considered that to make circles work they needed the visible support of the managers and made a presentation to them in order to secure their support and increase their commitment to quality circles. The Co-ordinators admitted that "getting the distance" of middle managers right was the most difficult problem they had to face, finding a way to allow the circles to be autonomous, voluntary and self-regulating while ensuring that the local manager was adopting a supportive but hands-off approach. A proposal to make the middle managers accountable for the success of circles in their area met with strong opposition from the managers who considered that without responsibility for circles' success, they should not be held accountable. The managers were asked to oversee the circles in their department, that is, to ensure that meetings were being

1 Interview 9.11.84

held regularly, to read minutes and keep informed about the progress of circles, to encourage newcomers to the department to join the circles and to be seen to be encouraging and enthusiastic about the quality circle. The manager was asked to act as a resource, providing information for the circle and advice on choice of project, attending circle meetings and presentations but not running the circles nor making decisions about what the circle should do.

The routing of communication had created difficulties. In one case, a circle was composed of workers drawn from a large department with four supervisors under one manager. The quality circle leader, one of the four supervisors, had taken the circle's problem directly to the departmental manager and bypassed the supervisor in whose section the problem arose. To help overcome communication problems the minutes of meetings were made available to a larger number of people, departmental manager, facilitators, posted on departmental notice board and quality circle notice board giving details of the topics discussed at the meeting and course of action decided. One episode which had cause considerable dissatisfaction with circles was mentioned by all managers interviewed. On the basis of their investigation, a circle had proposed the acquisition of an expensive machine and presented this proposal to the senior management. This was accepted and the machine was bought. However, two years before, the same proposal had been made by a supervisor in the department and dismissed as

being too expensive. The feeling was that the circles proposal was accepted because the senior management wanted to be seen to be supportive and they had not questioned the proposal thoroughly. As it turned out, the machine did not solve the problem and probably should not have been bought. This had caused resentment and increased hostility among supervisors and managers who were not well disposed to circles since they felt that the circle's proposal had been given preferential treatment merely to demonstrate top management support.

7.5 National Semi-Conductors, Greenock

7.5.1 Company Background

National Semi-Conductors, an American-owned company, manufacture silicon chips for use in the electronics industry. In July 1986, the plant at Greenock employed about 1,100 people of whom roughly 500 were direct labour, the remainder being support staff, electronic and technical staff and administrative/clerical staff. Most of the areas work on a shift basis. The company suffered badly in a world wide recession in the industry in 1985, losing over 100 million dollars. At the Greenock plant, over 600 workers were lost over an 18 month period, November 1984 - May 1986, some through natural wastage, the others mainly support staff, in two redundancy exercises. Employees' wages were frozen and the plant closed for two-week periods, with employees taking enforced unpaid holiday.

There was no trade union presence at National Semi-Conductors, nor any consultative council. Managers were expected to stay in touch with their staff through other means, for example, Task Groups which were problem oriented, or through informal mechanisms. A series of workshops was run where employees could talk about their views on pensions, benefits which might affect management policy. A plant wide attitude survey had been held in 1985 and the results fed back to the employees who were invited to discuss them further.

It was felt that the recession and resulting redundancies and pay freeze might have had a significant impact on morale, particularly for younger professional staff, engineers and technicians, whose career growth had been inhibited. With a smaller workforce, there was increased pressure for production and efficiency falling on fewer people.

7.5.2 Data Collection

An initial visit in January 1984 to interview the Quality Circles Co-ordinator was followed by two visits in 1985 and one in August 1986. All data were collected by interview, most interviews with managers alone but some in pairs. In all, six managers were interviewed, some known to be opposed to circles, some in favour. The choice of interviewees was not constrained. Most interviews lasted between 60-90 minutes.

7.5.3 The Quality Circle Programme

The quality circle programme at National Semi-Conductors had begun in late 1982 at a time when the workforce was expanding rapidly. The initial presentations were carried out by a consultant specializing in quality circles, Mike Robson Associates, who also provided the training materials used by the company.

By January 1984, when initial contact was made, thirteen circles were operating, mainly in support services and maintenance, with a few in production. A Steering Committee, chaired by the Managing Director, an enthusiast for circles, had been established which comprised facilitators, top level managers from all areas, quality circle leaders and middle managers. Two full time facilitators dealt with the day-to-day issues and conducted the Leader Training Courses.

One hurdle which National Semi-Conductors had to face was overcoming the fall-out from another quality programme, QUEST, which had been introduced some years previously. QUEST was described as "very Americanized, jargony"[1] and had been brought to the Greenock plant by a member of the management team on his return from the American parent. Essentially it was built around "rap sessions" where problems were identified and analyzed by the group. The solution of the problem was always left to the manager and according to the middle manager interviewed, these meetings soon became little more than "beat

1 Interview 6.2.85

the manager" sessions and were deeply resented by the middle manager.[1] According to one, QUEST was "an unmitigated disaster".[2] All those interviewed who had been involved with QUEST, felt that quality circles had had to overcome the resistance created by the failure of QUEST. A senior manager considered that quality circles were more likely to be seen as the latest gimmick or "flavour of the month" following the failure of QUEST, and that this may have accounted for some early resistance to quality circles in the company.[3]

In the terms of benefits gained through quality circle activity, the feeling was that cost savings and improvements to the product were less important than changes in attitude and understanding. One foreman, not a quality circle leader, remarked:

> "The best part of quality circles is their ability to tap the resources of the line operators - the girls know the problems but rarely have the opportunity to speak up. Communication meetings are too big to allow problems to be seen".[4]

All those interviewed felt that circles provide a worthwhile forum for increased participation. A senior manager considered that ultimately, improved understanding of the process by the operators would lead to improvements in the product and to higher profits though this was a long-term view.[5]

1 Interview 6.2.85
2 Interview 6.2.85
3 Interview 6.2.85
4 Interview 15.3.85
5 Interview 18.1.84

Projects undertaken had had only "mixed success".[1] One project on restructing a work area had been well received at the presentation, but had not been successfully implemented because the circle failed to sell it to the rest of the department, and the resistance from the non-members obstructed it.[2]

The training of volunteer supervisors as quality circle leaders was undertaken by members of the Steering Committee and the facilitators at a nearby hotel at weekends. At the insistence of the plant manager, the training course was open to all comers, shopfloor workers, supervisors and managers. There seemed to be general support for the training programme among those who had taken part in it and it was claimed that this participation had convinced some sceptical middle managers of the value of quality circles[3] and had helped reduce their opposition to them. However, one supervisor who was not a quality circle leader but had attended the training course was unimpressed by it. He felt that it was badly organised, too intensive and did not warrant the resources allocated to it. He also thought the projects were "inane".[4] Other middle managers said they had been impressed by the commitment of those taking part in the training and found a new aspect of workers seeing them in a new environment away from the workplace. They were, at their own admission, amazed at the effort put in and felt that the recognition of commitment and ability was important to those taking part.[5]

1 Interview 18.1.84
2 Interview 15.3.85
3 Interview 6.2.85
4 Interview 15.3.85
5 Interview 6.2.85

By mid-1986, over 200 managers, supervisors and operators had taken part in the course and it was regarded by the Training Manager as a significant contributor to the development of management and problem-solving skills.[1] While there was no plan to increase the size of the circle programme, it was hoped that the training programme would continue.

Publicity for the programme was problematic. Those closely involved felt that it was about right while others claimed not to have heard anything about projects. Reports of some projects were carried in the in-house paper, 'Semi-Circular', and the minutes of meetings and general information about circles were posted on a quality circle noticeboard. The senior manager interviewed felt that lack of information to middle managers was one of the factors which had contributed to their failure to support circles.[2] Two middle managers remarked on the quality of the minutes, inferring that the lack of detail in them might be deliberate, in that the circle was wary of showing their weaknesses and deliberately made the minutes uninformative.[3]

Two other factors thought to have contributed to middle management opposition were lack of understanding and loss of production time. To deal with the first, all middle managers were invited to attend a leader training course - some did and

1 Interview 8.8.86
2 Interview 6.2.85
3 Interview 6.2.85

became less sceptical. The Steering Committee also invited Mike Robson, the consultant who was involved at the initial presentation, to run a Question and Answer session with the middle managers to allay their fears and suspicions. In addition, two middle managers were invited onto the Steering Committee. On the second point, there was a belief that for middle managers, production took precedence over quality circles and when under pressure would be reluctant to allow members time to attend circle meetings. Two of the middle managers interviewed found that the circle activity in their areas had not affected production targets.[1] Offers by senior management to rewrite schedules to allow quality circles to function effectively were regarded with scepticism by the middle managers.[2]

There was little doubt that the effects of the recession and subsequent redundancies at National Semi-Conductors had affected the progress of the quality circles. In addition, while the programme was well resourced early on, the priorities had changed in 1986 and resources for quality circles were non-existent.[3] The emphasis was on the Business Plan, which made no mention of quality circles. Two additional factors had an effect on the demise of circles; the enthusiastic Managing Director had been replaced by one who "never particularly supported circles"[4] and one of the full-time facilitators had left and not been replaced. His colleague was moved from facilitator to recruitment and training.

1 Interview 6.2.85
2 Interview 6.2.85
3 Interview 8.8.86
4 Interview 8.8.86

7.6 Prestwick Circuits, Ayr

7.6.1 Company Background

Prestwick Circuits, a Scottish company which manufactures printed circuit boards, employs about 400 people, about 180 as operators. The company is not unionized, but has employees as shareholders. Briefing groups are used to ensure good communication between management and other employees.

7.6.2 Data Collection

Two visits were made to Prestwick Circuits, and three managers interviewed separately. The programme was still in its early stages, so few people had come into contact with the circles.

7.6.3 The Quality Circle Programme

The company was introduced to quality circles in 1983 through IBM for whom it acted as a supplier. The purpose of quality circles was to use people more fully and to allow them to express and resolve problems. In general, the aims were related to morale and involvement rather than quantifiable improvements in quality or output, for example, developing people and improving the communication and the relationship between supervisors and their subordinates.

The presentations to management and supervisors were made by a senior manager from IBM, Portsmouth, where a successful circle programme already existed. Following presentation to the management and supervisors, a Steering Committee was set up,

facilitators were chosen and the training of supervisors and chargehands who had volunteered as quality circle leaders began. As Prestwick Circuits did not have a training department, the quality circle leader training course was run by an outside organisation, P.I.T.A., specialists in this type of training. There was a deliberate effort at this stage to move managerial responsibility for circles to line management and away from the Personnel function. It was hoped that this would prevent circles from being seen as a personnel department "flavour of the month" project. Nevertheless, the personnel department retained a responsibility in facilitation.

The target for circles was 20% penetration, with about ten circles going at any time. During 1983-84, eight circles were established with roughly one third of the shopfloor employees involved in a circle. The next step was to start circles in other departments, sales, production control and the office.

The circles in existence had experienced a range of problems, for example, shiftwork in production areas often made it difficult for members to co-ordinate information and arrange meetings. To overcome this, members often gave up their own time, either staying on after their shift or coming in earlier. One circle leader had become disenchanted with the circles and had left - it was felt by those interviewed that this supervisor had never really been interested.[1] Other problems were caused by delays in making a presentation. Overall, the

1 Interview 27.3.85

managers considered that difficulties were best dealt with as they occurred and that they could prevent problems from escalating.

There had been an enthusiastic and very positive response to quality circles from most of the supervisors and shopfloor workers, with many volunteering to take part. The programme was run as openly as possible so that no secret society was allowed to develop. The problems tackled early on were solved fairly easily although some circles had taken on problems which were too difficult and no solution had been arrived at. The managers thought that there was some anti-circle feeling among non-members but that their reaction was more one of scepticism than hostility. Those opposed considered circles to be another sop to the workforce, paying lip-service to their wish to be involved and felt that quality circles would go away in time, as they were just another management technique.

The only area where strong hostility to circles existed was in middle management, particularly from two managers. Again, in Prestwick Circuits there was a feeling from those who supported the quality circles that this hostility could be, if not overcome, then contained.

The middle manager interviewed who did not support quality circles said that while he supported the "excellent principle" behind quality circles, he had reservations about their

progress in his own area.[1] He complained about the way in which circles had been given priority over other areas in the plant. He felt that the circles' enthusiasm was related to their success and that, where a circle had failed to arrive at a solution to their problem, the members would be de-motivated. This manager thought that the circle in his department was not keeping him informed of what it was doing; the minutes of the meetings were not made available and, more often than not, he did not know when or where the circle was meeting, or what project they were engaged on. He had even gone to the extreme of inviting himself into a circle meeting to get some information. This manager considered that he was not alone among managers in opposing circles as he felt that some of his colleagues shared his reservations but were unwilling to come out and say so. He also thought that the quality circle did not tackle its problems well, for example, instead of identifying the problem and arriving at a solution on the basis of their data, the circle made changes as they went along making comparison or measures of success impossible. The manager thought that the expectations of managers, senior and middle, were too high and thought it unlikely that quality circles would be as successful as they hoped.

The management at Prestwick Circuits was reserving judgement about what might happen to the quality circles. One facilitator thought that after about four years they would need to be changed and reviewed and did not see circles as a

1 Interview 27.3.85

once-and-for-always exercise.[1] The techniques developed within quality circles could be adapted for project teams so that the expertise gained would not be lost but could be used to address other problems.

1 Interview 2.2.85

CHAPTER 8

8.1 Analysis and Discussion of the Case Studies

In analysing the data gathered in the five companies, two complementary frameworks are employed. The first is that of Meyer and Stott (1985) who suggests that the success or failure of a quality circle programme can be analysed from three distinct perspectives: a Marketing-and-Training perspective, a Systems perspective and an Interest-Group perspective. Each of these perspectives draws on separate theoretical models and employs features of the analytical models suggested earlier by Weiss and Rein (1970).

The second framework used in the analysis is based on Walker's determinants of participation - participation potential and propensity to participate. To avoid repetition, those aspects of the cases which are covered in the Meyer and Stott analysis will feature less in the Walker analysis. Where appropriate in the discussion, reference will be made to previous studies by other researchers.

8.2 The Meyer and Stott Perspectives

8.2.1 A Marketing-and-Training Perspective

This perspective draws heavily on the QWL movement and ideology as outlined above. The fundamental idea is that quality circles serve mutual interests - the effectiveness of the organisation and the satisfaction of members. Quality circles will succeed if they are correctly marketed and the participants are adequately trained.

For Meyer and Stott (1985, p.39), this perspective concerns the diffusion of the quality circle concept and the training of those taking part in the skills they require for the implementation and operation of circles. Success is judged by the number of people trained and the number of circles operating.

The ideology underlying this perspective is essentially a unitary one; it is predominantly managerially oriented in its emphasis. Work organisations are seen as unitary in their structure and purpose, and programmes of participation are seen as ways in which the needs of the individual and the goals of the organisation can be more closely allied. Management does not surrender any of its legitimate authority to the quality circles, but retains its control over the content of the programme and the outcome of their problem-solving exercises. As Meyer and Stott (1985, p.39) point out, consultants are at the heart of this perspective - it influences their writing, thinking and actions. Since it is consultants who sell their wares to managers, often senior managers, it is not surprising that they offer participation programmes like quality circles as essentially stand-alone entities which are claimed not to undermine managerial control. Hutchins (1980) illustrates this perspective, as do Mohr and Mohr (1983). This perspective has much in common with previous QWL initiatives.

Many management consultants (such as Mike Robson and Wayne Rieker) draw heavily on the views of behavioural scientists such as Douglas McGregor, Abraham Maslow and Frederick Herzberg, who have profoundly influenced managerial thinking particularly in the USA, and also in American-owned companies in Britain. In the materials used by the consultants in introducing quality circles, much is made of the views of these behavioural scientists, particularly Douglas McGregor. Robson (1982, p.52) for example, sees Quality Circles as a continuation of the attempts made through job enrichment, QWL schemes and organisation development to change organisations to tap the potential highlighted by McGregor in Theory Y. For Robson, a comparison of the ground rules of quality circles and the principles of Theory Y demonstrates that "the two go hand in glove" (p.32). "Quality Circles", says Robson, "are firmly based on modern Western behavioural knowledge" (p.33).

According to Farnham and Pimlott (1979, p.150), two common themes run through the theories of these behavioural scientists: first, for management to achieve a balance between meeting individual needs and those of the organisation, they must develop an appropriate organisational climate, where employees can mature as individuals and members of a group, while, at the same time, contribute to the goals of the organisation. Secondly, motivation, job performance and job satisfaction are directly related to both organisational environment and leadership styles within the organisation.

Farnham and Pimlott conclude that "these behavioural interpretations of work and of employee motivation towards it are to a large extent managerially-oriented in their analyses" (p.151), and provide only limited explanations of both certain types of employee behaviour and some aspects of the employer - employee relationship. Their weaknesses are, first, their narrow view of the nature of industrial conflict seeing it mainly as an interpersonal relations problem or the pathological consequences of external factors. Secondly, they fail to consider power and ideology, and underplay the importance of organisational variables and social class differences not amenable to change by management. Thirdly, they underestimate the importance of technology as a determinant of workplace behaviour.

Finally, this "human relations" approach makes assumptions about motivation which are unprovable. Phrases such as 'good communications', 'participative management', 'team leadership' and so on which are commonly found in management vocabulary have had no demonstrable effects on improving morale, raising productivity or reducing conflict.

8.2.2 Systems Perspective

This perspective sees quality circles as a form of organisational change, likely to encounter the typical barriers to change and produce some dysfunctional consequences. To be successful and become institutionalised, quality circles must overcome these barriers and reduce the negative consequences by becoming integrated into the existing subsystems.

Whereas the marketing-and-training perspective focusses on attitudes and capacity - propensity to participate in Walker's terms - the systems perspective proposed by Meyer and Stott deals with structural factors, Walker's participation potential. According to Meyer and Stott (1985), this perspective:

> "holds that organisations are made of interdependent parts that must fit together smoothly if organisational effectiveness is to be achieved" (p.43).

The analysis of quality circles as part of the larger organisational system should, therefore, provide insights into the appropriateness or potential success of circles in any organisation.

Smeltzer and Kedia (1985) maintain that management must determine if the organisational culture is ready for quality circles. They introduce the analogy of a rope composed of a number of strands, each of which is one element of the culture. The culture itself is relatively permanent and cannot be changed in a short time, nor through corporate propaganda. To determine the likely effect of introducing circles six elements must be considered; organisational structure, management style, decision making, adaptation to change, communications and labour relations.

The rope analogy is used to make two points, first, the strands of a rope are interwoven and difficult to distinguish from a distance, as are the cultural elements in an organisation, and

secondly, as a rope's strength lies in its interweaving, so an organisation's strength lies in the interrelationship between the elements. However, if the cultural elements begin to work against each other, the organisation may begin to come apart, just as a rope unravels. Quality circles can strengthen the interwoven strands or unravel the cultural elements. The systems perspective proposed by Meyer and Stott is similar to this in that, from the system's point of view, all subsystems must be congruent if the organisation is to be effective.

To some extent, this perspective sees quality circles as a form of organisational change which need to be introduced into a social setting which is receptive to them.

Meyer and Stott's view is similar to that put forward by Nadler (1983) who considers that the major problems encountered in managing any form of organisational change can be divided into four categories, resistance, power, control and task redefinition. To overcome these problems, management must take a wholistic view of the organisation, secure top management support, encourage participation by those affected by the change, foster open communication and reward those who contribute to change (Griffin and Moorhead, 1986, p.689).

8.2.3 Interest-group Perspective

Here, quality circles are seen as a form of direct participation. The organisation is composed of groups with different interests, attitudes, goals and objectives. If they

are to succeed, quality circles must allow the conflicting interests of these groups to be met.

The interest-group perspective has industrial relations theory at its foundation. Unlike the marketing-and-training perspective which assumes that a common goal is shared by all in an organisation, this perspective, according to Meyer and Stott (1985):

> "assumes that various groups in the employer-employee relationship have different - and frequently divergent - interests. Similarly, the parties involved in the establishment, support and maintenance of QC efforts often have different objectives" (p.39).

In other words, this perspective adopts, to use Fox's term, a pluralist approach, where the organisation is seen as a site of several competing interest groups, who are sometimes, though not necessarily, at conflict and have different interests and objectives. Conflict is seen as an inevitable feature of an organisation; it can be constructive or destructive, functional or dysfunctional, depending on how it is managed.

Such differences as exist between interest groups will emerge, say Meyer and Stott (1985, p.39), in the early stages of a quality circle programme, especially when non-participants, supervisors and middle managers begin to express concerns.

8.3 The Case Studies

8.3.1 A Marketing-and-Training Perspective

As has been shown in the cases outlined in this research, quality circles, once introduced into an organisation were not independent of other systems but had far-reaching effects on the organisations. Attempts to cope with the negative effects through improved communication or training had little success, because they failed to address the real issues. For example, Ethicon, Hewlett Packard and National Semi-Conductors all returned to the consultants who had been involved in the introduction of the circles. The solutions offered were to hold appreciation sessions, question and answer sessions, conduct further training in group dynamics, or to improve the publicity about the circles - in effect, they offered more of the same.

National Semi-Conductor's use of the Circle Leader Training Course as a means of changing attitudes was reasonably successful. However, many of the difficulties in sustaining circles arose not because people generally thought they were theoretically problematic, but because of the practical and political problems they encountered. Training solutions did not actually address and overcome these difficulties.

It was assumed, in addition, that middle management's resistance was a consequence of the failure to convince them that quality circles were in their best interests. Despite expectations, as the circles progressed and showed modest

successes, those who were sceptical did not significantly change their initial attitude to the circles but remained unconvinced. In the medium-to-long term, when the circles began to encounter problems, the sceptics felt vindicated, and attitudes hardened even further.

This perspective assumes also that persuasion and training provide the most powerful means of gaining middle management support. It was apparent that many of those interviewed at Ethicon considered that the non-involvement of middle managers at the launch of the circles had contributed to their failure. This, added to the lack of information given to middle managers through normal channels, caused them to be unclear about the real purpose of quality circles and the effects the circle might have.

At Ethicon, as in National Semi-Conductors and Hewlett Packard attempts were made to reverse this lack of middle management support for the circles. In the main, the solutions were ineffective. All three ran internal courses to explain more fully to the middle managers what the purpose of circles was and how they could contribute to them. In most cases, the consultants responsible for the launch of the circles returned to reinforce the points made earlier and impress on the middle managers the need for their increased support.

Through internal channels, the profile of the circles was raised, for example, through articles in the in-house

magazines. At Ethicon, the QCDC requested articles from two of the managers they knew were not totally supportive of the circles; one complied, but the other refused. These managers, and the foremen interviewed, were sceptical of the claims made for the circles by those involved in the programme and did not consider that the resources committed to the circles, in terms of training and marketing, was well spent.

The basic premise of this perspective is that members of an organisation share common interests and are all striving to achieve common goals. Anyone who does not realize and accept this has failed to understand and must be educated. To find this perspective in these companies is predictable, knowing the policies they support on employee relations and the view they take of conflict.

Middle managers, however, are often seen as the true 'muddle in the middle' who do not share either the ideology of the senior managers, or the instrumental attitude of shopfloor workers. Being overlooked, or in some cases actively discouraged, in the launch of quality circles caused them some resentment.

While all this may represent how middle managers are perceived by outsiders, it was clear that the middle managers themselves did not accept this interpretation. At Ethicon, three foremen expressed the view that claims that their behaviour towards circles had caused them to fail were unfounded, and that in reality they were being made scapegoats for the real culprits,

the managers who were in charge of the circles and the facilitators.

This perspective offers a straightforward analysis of the factors preventing quality circle success. However, it is inherently limited and fails to deal with issues such as the role of reward systems, the nature of the commitment process, organisational power and the technical system. It does recommend itself strongly to a management who adopt a unitarist ideology, and to consultants whose role is largely that of missionaries offering the latest product in organisational fashion.

8.3.2 Systems Perspective

As Meyer and Stott (1985, p.44) identified, two areas in the organisational setting can be incompatible with quality circle philosophy, management philosophy, and organisation systems and technology.

(i) Management Philosophy

(a) Participation

Management philosophy will include the extent to which it is customary for management to involve workers in decision-making generally, and will be reflected in employee relations. The five companies whose quality circle programmes form the basis of this research were all non-union. They saw no need to involve employees in decision-making, nor to

develop any collective form of consultation. Where employees had a complaint, it was dealt with at local level by their manager, or by schemes such as 'Open Door' and 'Speak-Up' at IBM which allowed the individual to raise his grievance or query formally. As far as the quality circles were concerned, their sphere of interest was strictly confined to topics related to the immediate job. Areas such as wages, benefits, work practices and so on were out of bounds to them.

In general, the impetus to start circles came from senior management, sometimes directors. In Hewlett Packard and IBM, there was a certain amount of corporate pressure, but generally the companies operated fairly autonomously and had introduced the quality circles without reluctance, often with great optimism. Senior managers were often more optimistic than their immediate subordinates about quality circles, and so on down the line. However, the operation of the quality circle programme was delegated to middle level managers, who may not have been closely involved in the initial decision to adopt circles.

One of the key features of quality circles is that they are voluntary - nobody can be coerced into taking part, a feature which made recruitment of

participants difficult. IBM solved the problem by making it compulsory for all managers to start circles, a policy which was quickly shown to be unworkable. Nevertheless, with management-by-objectives used to establish goals for managers, IBM, by forcing the managers to include quality goals for their departments, managed to keep circles alive. Clearly, managers at IBM accepted the authoritarian process of decision-making - as one manager described, the 'volunteers' for circle membership were leaned on by the managers in a similar fashion.

Ethicon and Hewlett Packard had more difficulty. In keeping with the spirit of voluntariness, quality circles were composed of leaders and members who genuinely wanted to participate. However, in some cases, the managers of the department from which the circles were drawn were not supporters of quality circles, but were expected to supply the circles with information, attend meetings and consider their recommendations. When the companies realized the managers were not providing this support, circles no longer were voluntary for the reluctant manager - both Hewlett Packard and Ethicon considered adding accountability for quality circle success to the managers' objectives, a proposal rejected by the managers who refused to be accountable for something for which they had no responsibility. What most

irritated the managers was the heavy-handed treatment they received, in contrast to the treatment given to the circle leaders and members.

(b) Rewards

Management philosophy is also reflected in the reward systems, financial and non-financial. None of the companies rewarded circle suggestions financially (in contrast to Japanese practice), although Ethicon was intending to introduce some financial rewards had the rejuvenation gone ahead. At Ethicon, there were some suggestions that lack of financial reward had demotivated participants, that people were not interested in doing 'something for nothing'. For most people the short-term rewards available for participation in quality circles were either symbolic, badges, plaques and so on, or intrinsic. However, participation could also lead to being noticed and eventual promotion, although this was never made explicit. Ethicon, for example, was using the circles as a way of 'talent-spotting', a point not lost on those sceptics who did not support the circles but saw the participation by others as a form of ingratiation. In this way, the circles may have presented another means of rewarding individual effort, without tackling the difficult problem of rewarding group effort.

Even though none of the companies had a system of financial rewards for circle activity, IBM did link circle performance to management appraisal. Each manager in IBM was obliged to achieve a quality of performance goal and was appraised according to how well he achieved this in his annual appraisal. Many managers took part in quality circles - those who did not opted for Quality Improvement Teams or another means. However, it was clear to the managers that quality was a key goal and quality circles the preferred way of achieving it.

Therefore, IBM made a direct link between management appraisal and reward on the one hand, and quality circle performance on the other.

(c) Costs and Benefits

For many people, there was a tendency to evaluate quality circles in strict money saving terms. Often, those involved as facilitators or co-ordinators argued strongly that the non-quantifiable benefits were paramount, an argument not accepted by managers and foremen who felt themselves constantly under pressure to justify every penny spent. As they saw it, the circles were allowed to continue, even though they were net consumers of resources, to them a clear case of favouritism.

Managers and foremen with production schedules to meet came to resent the resources devoted to quality circle activity, both in meetings and preparations for presentations, resources which they considered wasted when the circles did not produce immediate benefits. In Hewlett Packard, this resentment was focussed by an instance where a circle's suggestion was given priority over other departmental changes and was subsequently found not to be worthwhile.

Few benefits of quality circle activity were passed on to the outsiders; even where a circle suggested a change, it was often left to the manager to bring it about and follow it up. The circle had moved onto another project. For the managers not involved as facilitators, there were more costs incurred than benefits realized through quality circles.

(d) Interpersonal Relations

Quality circles, to be successful, required the establishment of closer working relationships between supervisors and their subordinates. The interpersonal skills needed were developed through the training course and during the operation of circles. Some of the supervisors, and in IBM's case managers, had been promoted for their technical ability and found the demands on them in leading and motivating a group to be very great. The circle ran

into operational problems, and, despite efforts by the facilitator to retrieve the situation, the circle often collapsed, exposing the quality circle leader's poor interpersonal skills, and causing frustration to the members of a circle.

In a different way, a quality circle could have an indirect effect on the foreman as described by one foreman in Ethicon. He felt that the quality circle leader, a supervisor, had become too close to her group and had lost authority; to compensate for this, he became more authoritarian, in order to distance himself from the leader and from the group, and reestablish the control he felt had been lost in the department.

Some organisations found fewer problems in this area. The impression given by both Prestwick Circuits and Hewlett Packard was that working with small groups presented few difficulties to the supervisors, as it was encouraged generally.

(ii) Organisation Systems and Technology

(a) Decision-Making

Quality circles deal best with problems which are relatively self-contained, short term and measurable, and are less well suited to those which are non-quantifiable, have a long time frame, or are

variable. As has been shown, the issue of project choice was one of the most difficult that circles had to deal with and a source of much friction. The difficulty arose, in part, because relatively few problems in organisations are of the type suited to quality circles, and, after a year or eighteen months of operation, it became increasingly difficult for the circles to identify new topics for investigation. IBM circumvented this problem by making a proportion of their circles cross-functional and interdepartmental; this allowed the circle to work on problems which were not confined to a particular department. At Ethicon, there was a certain amount of resentment when a quality circle appeared to be encroaching on another department.

According to the systems perspective, lack of middle management support for circles is best seen in the context of the organisation as a whole. If the organisational sub-systems do not reward middle managers for their support, it will be withheld; if the communication system allows information which is important to them to bypass them, their support will be withheld: in a wider sense, if they are not themselves part of a management system which encourages and facilitates participation, they will not participate. Equally, the technical system must encourage middle managers to support quality circles;

the resources allocated to circles must not affect the operation of the department adversely; the projects tackled by circles must not threaten the manager of the department nor impinge on other departments. As well as the internal system, the external system must favour middle management support for circles.

The underlying premise of the systems approach is that the organisation is involved in balancing inputs and outputs and concerned with processing inputs to achieve this equilibrium. Within the organisation, members have mutual interests, each calculating what benefit or cost to himself or herself any contribution will make. From this perspective, middle managers would contribute to quality circles only if the benefits of doing so would outweigh the costs. If there was nothing to gain, they would contribute nothing.

Apart from IBM, where circles were still operating reasonably successfully in their terms, none of the other four organisations acknowledged the support they got from the middle managers in their appraisal and reward systems. In IBM, the managers were expected to run quality circles - if they did not, they were obliged to run a similar but non-voluntary group so their choices were limited. Quality targets

were built into their objectives. At Ethicon, the view of the facilitators was that the managers could not recognise what the circles could do for them. There was some difference of opinions as to whether the dissenting middle managers should be forced to co-operate or whether they would come round once they saw what they were missing. In fact, neither of these courses was realistic.

Many of those who accepted the importance of rewarding middle managers for their support of quality circles recognised that there was a dilemma: managers were told not to become involved in the circles; the circle's success or failure was largely determined by factors independent of the manager, for example, the projects they chose, the organisation reaction time to their proposals, the training they received, the quality of leadership and facilitation: however, the manager was to be held accountable for the performance of the circles. The managers interviewed at Ethicon and National Semi-Conductors rejected the proposal to appraise them on the performance of circles for which they had no responsibility. Without making circles compulsory and led by managers, as IBM did, or creating a completely integrated system as the Japanese companies have, it is difficult to see how this could be made to work.

Middle managers and departmental managers objected to the intrusion of circles into what they saw as their rightful area; they were resentful that the circles could tackle problems which they considered their responsibility. An added source of tension came from the presence of the facilitators - often managers of equal status to the departmental managers - who were used by the circle to help identify problems. Clearly, at Ethicon the relationship of the facilitators and departmental managers was very sensitive. The failure by the facilitators to keep managers informed about what the circles were working on became a major cause of dissatisfaction to the managers.

Further problems arose when quality circles presented their conclusions and outlined their proposals. The circles had no budget or resources of their own to finance these proposals - if proposals were accepted, they were enacted using resources from the department. From the interviews with departmental managers and foremen, particularly at Ethicon, it is apparent that the diversion of departmental resources to the quality circles was very unpopular and was seen by these managers as another example of preferential treatment. As an incident at Hewlett Packard showed, the support for a proposal from a quality circle was considered unfair, especially when

many people knew that the same proposal, when made by a supervisor some years previously, had been rejected. That it turned out to be useless merely added further to their annoyance.

(b) Communication

The bottom-up type of communication introduced by quality circles was novel for the companies studied. With no trade unions, they had few formal avenues of upward communication - mostly it was done informally, if at all. Those who participated in quality circles found that they could approach senior managers and specialists either directly, or indirectly through the facilitator, when they needed assistance or information. These channels of communication allowed them to bypass their own foreman and manager, adding further to the managers' feelings of isolation from the circles.

The minutes of the quality circle meetings, and in the case of Ethicon, of the Development Committee meetings, were sent directly to the appropriate manager. From the comments made in interviews, it is clear that many managers considered this inadequate - the minutes were not sufficiently detailed to keep an outsider well informed about the progress of the circles' investigations. Indeed, two foremen at National Semi-Conductors suggested that this may have

been deliberate and prevented managers from interfering in the circles' investigation. At Ethicon, the departmental managers felt that the facilitators should have maintained a dialogue with them. On balance, the fault seemed to lie on both sides; facilitators felt that the managers should make the effort to find out what the circles were doing, and the managers felt the facilitators were deliberately avoiding them and withholding information.

Delays in communication could also cause problems for the circles. When the circles had presented their findings and proposals to management, they often expected an instant acceptance. When there was a delay before the decision to accept the proposal or not was announced, the circle members could get disheartened and lose interest in further projects. In some cases, these delays may have been unavoidable, but it seemed that some may have been deliberate.

(iii) External Environment

(a) Economic and Political Factors

Walker suggested that the nature of the product market could affect the outcome of participation. In the same way, the success of a quality circle programme might be affected by the prevailing

economic climate, as in the example of National Semi-Conductors where the quality circles had been introduced at a time of expansion, when there was great optimism about the silicon chip industry worldwide. With a severe downturn in the market, redundancies became inevitable and the effect on the quality circles was noticeable. Many people who had participated lost interest and, with a general loss of morale, the programme gradually wound down as fewer resources were allocated to it. To some, it seemed a luxury they could not afford. (Incidentally, others at National Semi-Conductors felt that it was under these rather negative circumstances that quality circles could make a significant contribution to raising morale and keeping optimism high).

Most of the UK companies who adopted quality circles did so in the early 1980's, when political support for trade unionism was declining under the influence of a right wing Conservative government, and unemployment was high. Under these conditions, quality circles seemed to offer a means of involving workers, to a limited extent, in decisions about their immediate jobs. When the circles proved to be ineffectual and beset by problems, those in charge of them allowed the programmes to decline.

Meyer and Stott (1985) believe that using a systems perspective, quality circles' failure to become institutionalised is inevitable because:

> "They are only a small piece of a larger integrated whole - Japanese management philosophy - and thus cannot produce the same results for American organisations"(p.43)

The following examples demonstrate the extent to which the Japanese integrate quality circles into their organisations, both through the management philosophy and through the organisation systems.

In a paper to a recent conference on Japanization, Broad (1987, p.15) reviewed employee participation in Japanese industry. He describes the adoption of small group participation techniques (such as quality circles) by Japanese corporations as their response to the social consequences of technological change, where in the 1960's highly trained and educated workers were employed on routinized, deskilled and monotonous tasks. Through quality circles, employee participation was localized to the production task level which suited the team-based custom and practices of the Japanese workplace and enhanced the authority of supervisors and lower management. In addition, Japanese foremen are responsible for a wider range of matters, including aspects of personnel management - appraisal, training, grievances, discipline. The foreman is also at the

centre of the work group's network of personal relations, and represents the group to its superiors. Payment and promotion systems are also connected to performance appraisal carried out by the foreman. Broad (p.19) contrasts the situation faced by the British supervisor, whose task is often to entice or cajole the worker into accepting responsibility through reward and punishment, with that which applies to his Japanese counterpart, where the Japanese supervisor, in part, controls the worker's bonuses and promotion prospects.

To overcome the difficulty of implementing quality circle suggestions, Cole (1979, pp.180-181) describes how Toyota Auto Body created improvement groups which ensured quick action on quality circle proposals - in itself, appointment to an improvement group was recognition of that individual's potential for promotion. A second outgrowth of quality circles at Toyota Auto Body is the "workshop university" (p.183), which enables ordinary workers to acquire the technical knowledge needed to carry out their projects, and through which they can complete programmes of study leading to further qualifications.

It is apparent from these examples that the role played by quality circles in Japanese industry is significantly different from that available to them in British industry, where at best their contributions are marginal. In addition, for the Japanese worker, quality circle activity is not voluntary. There is constant pressure for suggestions and the worker's 'attitude', which will affect his chances of promotion and bonuses, is judged in part, by his willingness to participate in and contribute to the quality circle programme. As Cole and Tachiki (1984, p.420) pointed out, even Japanese companies in the USA had a lengthy period of education and training before they introduced quality circles.

From the case studies presented in this research, it is clear that the organisations did not develop any means by which the quality circles became integrated into the organisational system whereas, as both Broad and Cole pointed out, in Japan they play a significant role in the personnel and training systems, the reward system and the technical systems.

8.2.3 Interest Groups Perspective

The interest groups which can be differentiated in the case studies are senior management, line management and middle management (including foremen), supervisors, circle members and non-members. (Meyer and Stott (p.40) deal with trade union interests in some detail. As none of the five companies in this research recognised trade unions, this group cannot be considered. However, the significance of non-unionism for companies who adopt quality circles will be discussed later).

(i) Senior Management

Within this group, there was a range of attitudes; some senior managers, notably those from personnel, were in favour of quality circles and were instrumental in the adoption, launch and facilitation of the circles. In all five companies, however, there was some dissent at the senior management level which persisted throughout the programme and may have contributed to lack of success. In Ethicon, support from the Personnel Director was balanced by the Production Director's lack of commitment. While no single individual could guarantee either overall success or failure of the circles, those lower in the organisation who opposed the quality circles clearly took comfort from their perception that some of the senior management agreed with them. Some of the production managers in Ethicon felt that their lack of support was echoed further up, and they therefore had the tacit, if

not explicit, support of senior managers. The traditional personnel versus production conflict also seemed to come through in some of the dissent; in general, the personnel department tried to overcome this by involving a number of managers from production either in facilitation or in the Steering Committee, with varying degrees of success.

In National Semi-Conductors and Hewlett Packard, the plant manager/managing director was an outspoken advocate of quality circles; the other three companies had support from the top also. However, as was mentioned earlier, many lower in the organisations were dismissive of senior management support, implying that those at the top were out of touch with the 'real' problems which those on the ground deal with from day-to-day. This attitude was represented in all five companies. In some cases, senior management support was seen as positively harmful to quality circles or to any initiative taken in the company.

In terms of objectives, senior management were interested in the achievement of greater efficiency and the development of involvement and increased commitment through quality circles. The limited decentralization of decision making which occurred with the introduction of quality circles had little effect on the authority of senior management, and they were rarely involved in the

decisions about whether a proposal should be adopted or not. In the instances when they did intervene to support a proposal, their intervention was seen by middle managers as inappropriate, and was severely criticized.

The suggestion earlier that the sophisticated paternalist companies which are foreign owned (like IBM) would be more likely to adopt quality circles might find some support in the present research. For example, in interviews with senior managers at IBM, Ethicon, National Semi-Conductors and Hewlett Packard, they inferred that quality circles were in keeping with existing employee relations policies which rejected collective consultation in favour of paternalist and benevolent personnel policies. To some extent, quality circles would have been only one of a range of devices - it is difficult to attribute a major role to them - in keeping unions out. In the companies dealt with here, there was no possibility that unions would ever be seriously considered. Given the prevailing industrial relations and economic climate, trade union recognition was almost inconceivable at any of the five companies. This research would confirm what has been identified in other non-union firms, that these companies "are not so much striving to keep the unions out, more creating a climate in which employees simply feel no need to join a union" (Newman, 1980, p.64), so that union organisation becomes irrelevant to the needs of their employees.

Senior managers, including those who were co-ordinators, facilitators or members of the Steering Committee were very clear about the scope of the quality circles. Their expectations of what the circles might achieve were modest and the agenda of items available for discussions by the circles was clearly prescribed. Senior management believed that the circles fitted into existing organisational structures with few modifications - one or two senior managers were allocated overall responsibility for the circle programme, with perhaps, as in Ethicon and Hewlett Packard, a number of middle managers working with him part-time as facilitators.

(ii) Middle Management

In all five organisations, there were differences within this management group. On one side were departmental and line managers who supported quality circles, were closely involved with their operation and regretted their demise. In contrast to them were those who considered quality circles to be a waste of resources and effort, were suspicious of the motives of those who became involved and predicted their failure from the outset. Much of the research reviewed earlier focussed on this latter group, the "frozen layer" to use Barra's (1983) phrase, and confirmed that, among others, lack of middle management support was a major factor in the failure of quality circles.

However, not all middle managers opposed quality circles as the present research shows. In all five companies, there were departmental and middle managers who did not preceive quality circles to be a threat to their authority but devoted a great deal of time and energy to making them succeed. They recognised that, through circles, the non-management employees could have an opportunity to contribute to the organisation and become involved in decisions which might have a significant impact on their immediate job. Many of these supportive middle managers were closely involved with the quality circles from the start, often acting as facilitators or, in some companies, as circle leaders, or as members of a Steering Committee. Others took a less active part, but were important opinion formers. In Hewlett Packard, for example, one departmental manager described how he would ask the circle leader how the circle's project was coming on, what kind of help he could offer, if any. He would speak to new members of the department and encourage them to join the circle and generally do all he could to assist the circle and accept any proposals they put forward if they seemed workable and good solutions.

The managers who were also facilitators or members of the Steering Committee normally were known to be likely to support initiative like quality circles and had been asked to become involved for this reason. It was clear from the interviews that others in the companies regarded

the facilitators as central to the progress of the quality circles. In the case of National Semi-Conductors, the non-replacement of the facilitator who left was perceived as a loss of commitment by those higher up. However, the danger of over-commitment by the facilitators were also clearly seen, especially in Ethicon where critics of the circles regarded the facilitators' zeal as counter-productive.

The Quality Circle Development Committee (QCDC) at Ethicon acted as the co-ordinating body for the circles, and comprised the facilitators and representatives of the foremen. This group was very active in the day-to-day progress of the circle programme and had a vested interest in keeping the circles going. While in the interviews, many of the members claimed that they had only the well-being of the circles at heart, some outsiders were more critical of their motives. QCDC members were very defensive in their attitudes and reluctant to allow any negative information to emerge. As Mohrman and Novelli (1985, p.99) suggest, this is typical of the 'trapped administrator', one whose career interests are tied up in a programme, who fears that its demise will affect his own prospects. It was suggested by those who criticized the QCDC, that the members deliberately painted a false picture of the well-being of the circles. Some of the members, not themselves facilitators, felt under pressure not to be open about

the problems which some circles were experiencing, suggesting an element of 'groupthink', as Janis (1982) describes. The two members who left the QCDC were bitter about the treatment they received after their resignations. Indeed, one claimed that he resigned because he could no longer support the lies and half-truths put out by the QCDC.

The reluctance of the QCDC in Ethicon and the facilitators in other companies to confront the failure of circles may have been caused by their uncertain and precarious position. Exposing the causes of failure may have exacerbated a delicate situation and given ammunition to their critics, leading to a quickened pace of failure; confronting those who opposed circles might only have drawn attention to the vulnerability of the circles.

There also seemed to be clear signs of role conflict, where facilitators could neither take the side of management nor the side of the quality circles. This was most evident in the uneasy relationship between the facilitator in Ethicon and the managers of departments with quality circles, as previously described. Most of the part-time facilitators were of similar status to the departmental managers. They did not, therefore, have any formal authority to instruct these managers to support the circles, but relied on their goodwill. The

departmental managers resented the intrusion, as they saw it, of another manager into the internal workings of their department - not only did they have a supervisor and quality circle members poking about, but they had to contend with an outsider too. Given the less than favourable conditions in which some of the circles had to operate, the additional strain imposed by the presence of the facilitator made their task almost impossible.

Departmental and middle managers who opposed circles did so for a variety of reasons, many mentioned above. It was striking however, that none of the organisations, while recognising that this was the case, felt that this opposition would seriously hamper the circles' success. This was most apparent at Prestwick Circuits who were only getting their programme off the ground, but had a fairly complacent view.

Project choice became a difficult issue for the quality circles because by identifying problems, the circles could be seen to be inferring that the manager was not doing his job properly. This issue was a cause of concern to both departmental managers and foremen. The manager, however, could obstruct the circle in its operation in a variety of ways, for example, he could request that meetings be postponed or rescheduled due to pressure of work, he could put informal pressure on the group members or the circle leader, he could make it

difficult for them to get the information they needed or the co-operation of other members of the department. He could also use the presentation as a way of showing up the circle, by criticizing or ridiculing their proposals, by seeming to accept them but doing nothing to enact them or simply by refusing to accept them claiming he did not have the resources to do so. The use of covert blocking tactics was often more effective than overt opposition.

In Ethicon, particularly, the relationship between departmental manager and facilitator became a significant issue. The choice of part-time facilitators went against all the advice given to the group starting the circles, but seemed sensible to them as it distributed the load and involved the greatest number of managers from that level. However, the managers with quality circles in their departments felt that they were being excluded from matters which were the concern of their own department, and that the department's time and budget was being used to operate circles over which they had no control. As time went on, hostility to the circles increased and their survival became more precarious.

Unfortunately, the middle managers at Ethicon who opposed the circles found an ally at the top, which gave some support to their case; neither did the circles make any significant contribution to the managers' effectiveness, so there was no change in their attitude to make it more positive.

The research suggests reasons for the failure of middle managers to support participative initiatives like quality circles. Their negative attitude was indicative of their belief that quality circles were unnecessary - in many cases they were merely doing the jobs which supervisors or managers should be doing. They disliked the suggestion that work should be democratic and saw quality circles as a threat to their own authority. The middle managers who rejected quality circles asserted that the circles were net consumers of resources producing few worthwhile benefits; the problems they tackled were often already recognised by the management who regarded them as either trival or insoluble; the loss of production time made achievement of production targets more difficult; facilitators, leaders and quality circle members were not knowledgable enough to cope with the complex problems they undertook; support for the quality circles could be seen more as a public relations exercise on the part of the senior management than as a serious attempt to decentralize decision-making power; quality circles were just another fad which would be replaced in time by something else. For these managers, quality circles represented just another burden. While they recognised that the leaders and members might benefit, they did not consider that they would derive any significant benefits from circle activity.

Attempts by the companies to re-educate these managers using training or appreciation programmes had limited success, because, as was suggested earlier, the problem was not one of propaganda failure. Instead, the companies need to identify a means of rewarding those managers who did support circles.

Of the five companies dealt with in the present research, only IBM had a programme of quality circles which could be deemed successful, at least in its own terms. In contrast with the other four companies, in IBM quality goals were part of the objectives for all managers and there was a requirement that the managers would have among their objectives one which clearly stated how they would address quality of performance or service which would be discussed at their annual review. The managers at IBM were circle leaders, so the outcome of circle activity was attributable directly to them: the line of responsibility and accountability was very clear. In this way, IBM had created a direct link between quality circle activity and the managerial reward system, aligning middle managers' career interests with senior management's goals.

The other companies did not adopt this practice. In introducing circles, they had made it clear to the middle managers that their role in quality circles would be insignificant and that, if anything, they should stand

back from the circles and not become closely involved. By this, they hoped that the circles would become independent of management and would not be seen by the participants as the tool of the management. When it became clear to those in charge of the circles that without management support, the circles would fail, attempts to involve the middle managers were unsuccessful. In Ethicon, Hewlett Packard and National Semi-Conductors, it was further suggested that middle management should be made accountable for circle success and that this should feature in their objectives. This was rejected by the middle managers who maintained that without responsibility for the circles, they could not be held accountable for their success or failure. At Ethicon, there was a feeling among the facilitators that this was inconsistent - if the company decided to adopt quality circles, it was everyone's responsibility to make them work, not just those designated as leaders, facilitators or members. Middle managers could no more opt out of this than they could opt out of supporting the company's policy on Health and Safety. However, the appraisal and reward systems did not consider middle managements contributions to quality circles.

Where middle managers or departmental managers were unsympathetic to and not involved in circle activity, circles often found it difficult to operate successful. Project choice was a sensitive area, for a variety of

reasons. The managers sometime felt that the circles were tackling non-problems or devising solutions which would not succeed. They were unhappy that the circles could work on departmental problems without the manager's co-operation, and were often dismissive of the ability of those in the circle to identify solutions to problems which had been looked at by management already. When the circles were collecting their data, the managers gave them little co-operation and did not encourage non-members to assist them. Finally, when the circles presented their proposed solutions, the managers could reject the proposal with little explanation, or delay implementation so that the circle became discouraged and lose momentum. At the presentation itself, in one instance at Ethicon, the managers spoke out against the circle's proposals. Their objections brought an end to that circle completely.

At Ethicon, middle manager was a term used for both departmental manager and foremen. This latter group is not singled out in other studies but in this research, in Ethicon, they were significant and were more closely investigated in the third phase of fieldwork. As middle managers, they were responsible for the operational decisions and the progress of the department, they had a number of supervisors below them and worked closely with the departmental manager. They had their own representatives on the Steering Committee.

Many people interviewed at Ethicon suggested that the foremen's opposition to quality circles was largely responsible for the circles' failure, and this suggestion was carefully investigated. This group was excluded from quality circle matters as they had no role to play - circles were led by supervisors, and the facilitators were drawn from the departmental managers. Even those foremen who were on the Steering Committee were not considered suitable to be facilitators, which created some friction. Nevertheless, in the interviews with foremen, it did not emerge that they had the power to inflict a sustained attack on quality circles, nor did they appear to want to. They had no power to veto circles suggestion nor to prevent the circle from following up any line of enquiry it chose. The foremen considered that they were the 'scapegoats'. In looking for someone to blame at Ethicon, the foremen were a fairly obvious target.

(iii) Specialist Staff

There were few instances in the research where specialists had a significant impact on the quality circle programme. One example did occur at Ethicon where it was claimed that support from engineering, when it was needed, was not forthcoming. However, in another instance, the engineering assistance was given freely. It is possible that the circles were steered away from projects which demanded a high degree of technical expertise, so that this issue did not arise.

(iv) Supervisors

As in management, there were two distinct groups within supervisors - those who were well disposed to circles and often became circle leaders, and those opposed, who had as little as possible to do with them. Circle leaders were chosen in all organisations, except IBM, from the first-line supervisors. After training by the facilitators, they sought volunteers from their own areas to become members of quality circles.

It was apparent from interviews that for circle leaders the circles generated additional work. However, it was suggested that some of the leaders seemed unable to delegate successfully and actually demotivated the circle members by monopolizing the circle's work. (This charge was levelled at some facilitators also). Many of the leaders, feeling responsible for the outcome of the circles' investigations, may have felt pressurized into taking on more than they should have because they did not trust the members to carry it out as well as they wished.

From the circle leaders interviewed, it was clear that they had enjoyed being part of the quality circles and were sorry the circles had ceased operating. They realized that the manager was not always sympathetic to the circle but had been optimistic that he would come round, an optimism not always realized. There did not seem to be any fear of being shown up by the circle but a

willingness to recognise that the people lower down in an organisation had a valid contribution to make, particularly in their own work area. Criticisms of the supervisors-as-leaders by others generally revolved around their inability to lead successfully and to maintain the group. It was thought doubtful that training could have overcome all of these failings, as some were considered to be personal weaknesses on the part of the supervisors.

As with the middle managers, some of the supervisors acting as circle leaders had a difficult relationship with the facilitators, particularly at Ethicon, where, at times, the facilitators tended to dominate the circles. The hierarchical relationship between manager - supervisor was mirrored in the circle relationship, facilitator - circle leader. An inexperienced supervisor could be intimidated by the presence of a superior, even though, as a circle leader, he had the authority to run the circle as he saw best.

In addition, where the relationship between the facilitator and departmental manager was strained, the supervisor could find himself stuck in the middle - it was clear in some of the Needle departments at Ethicon that the supervisors/circle leaders were aware that they did not have the support of the manager, who resented the presence of circles in the department. Attempts by the

facilitator to secure the circles' position often made it worse and created greater tension. Some of the circle leaders at Ethicon suggested that the manager had put pressure on them to withdraw from the circle or had made it clear that information or assistance needed by the circle would not be available. In the case cited in Industrial Engineering, the manager had waited until the presentation to attack the circle openly. In other instances, delays in adopting a circles proposal could cause them to lose momentum.

The supervisors who were not well disposed to the quality circles did not have a significant impact on the success of the programme. In all companies, volunteers were sought to act as circle leaders - those who did not volunteer chose not to become involved. In general, supervisors in this group tended to be older and longer-serving than the volunteers.

(v) Members and Non-Members

This research did not look directly at the attitudes of non-members. The managers and facilitators interviewed considered that those who did not volunteer for circles were not a homogenous group, with a single factor distinguishing them from the volunteers. At Ethicon, for example, it was suggested at Braiding that the volunteers for circle membership were not necessarily the best workers. At IBM, on the other hand, the managers

referred to the circle members as the "goodies" and "the good guys" implying that those who volunteered were somehow 'better' than the non-participants. The managers at Ethicon also suggested that age and sex might affect voluntary participation, implying that younger, female workers would be less inclined to become involved.

Searching for factors might prove unproductive. It is possible that employees are influenced to a greater extent by their perceptions of how much support there is for participation from management. At Ethicon, the PA International survey showed that only 45% of the workforce thought that quality circles were important to management (Table 7.6). It is possible that where management support for participation is seen to be absent, it is unlikely that employees will volunteer to participate in a quality circle programme. The fact that almost 40% of the workforce said they would consider participating suggests that there was greater interest in quality circles than had been realized at any time.

Those who did volunteer for the circles appeared to enjoy the experience - the managers and others interviewed praised their commitment and the contributions made by circle members. There were many stories of people coming into work on their days off to attend a meeting, staying later to prepare for a presentation or edit a video, presenting results with great skill and confidence.

Clearly, the quality circles tapped a reservoir of talent, which, if used properly would have been of great benefit to the companies. There were indications at Ethicon that those who had participated had been disappointed when the circles were stopped. In the survey, the ex-circle members indicated that they had achieved less than they had expected.

It was clear from interviews too that some members may have felt pressure from non-participants which could have made it more difficult for them to continue in the circles. This possibility was raised earlier that circles would create in-groups and out-groups, causing the non-members to distrust their colleagues in the circle and accuse them of being management collaborators. This informal group pressure may have grown over time and made it increasingly difficult for new people to volunteer for circle membership.

8.4 Walker's Framework: The Case Studies

Meyer and Stott's three perspectives emphasise different views of quality circles and indicate issues which could be significant in the institutionalisation of quality circles. However, they do not deal directly with organisational factors. As a complement to those analyses, Walker's framework considers the situational and human factors in a different manner. In this section also, the previous research into quality circles reviewed in Chapter Five will be integrated and discussed.

8.4.1 Participation Potential

(i) Autonomy

While there was corporate support for quality circles from the parent company in the case of Ethicon, Hewlett Packard and IBM, the impression gained was that the local management could decide whether or not to proceed. However, at Hewlett Packard and National Semi-Conductors, the tapering off of support meant that fewer resources were available to the circles and interest in them began to decline. For these reasons, it is possible to conclude that the circles needed more than local support to become institutionalised.

The point was raised earlier that Amercian-owned companies were more likely to adopt quality circles, and the present research would support this. However, with regard to Bartlett's (1983, p.9) findings, the success rate was difficult to determine; with Prestwick Circuits as the only British company, it is impossible to determine whether or not non-British ownership did have a significant effect on the outcome. The relationship of American-ownership and industrial relations climate is also complex. It seems that the ease with which quality circles could be introduced in a company was affected by the presence or absence of trade unions; the difficulty of securing a unionised company in Central Scotland which had adopted circles would seem to indicate that

unionised companies are less likely to introduce circles. This outcome could be the result of two forces; internal factors within the companies which favour certain types of participation and external factors, from the trade unions which may be antipathetic or opposed to quality circles. As has been mentioned, the five companies researched were never likely to recognise trade unions for collective bargaining or negotiation. The introduction of quality circles can be seen as both a means of keeping unions out, as Parker (1985, p.16) would suggest, or of allowing limited participation on unimportant issues.

Since none of the companies was unionised, it is not possible to say whether the presence of unions would have made institutionalisation more or less likely; previous research by Bartlett (1983) and Dale and Hayward (1984) do not draw definitive conclusions.

(ii) Technology

Manufacturing industry was chosen as the field for this research. Of the five companies studied, four were in electronics or telecommunications, and the fifth, Ethicon, manufactured goods for the medical and surgical sectors. As Hill (1986, p.26) suggested, firms in manufacturing are more attracted to quality circles because they can more easily measure improvements in quality than those involved in providing a service, where

indicators are difficult to develop and verify. Even within the five organisations, the circles were drawn almost exclusively from the assembly, production or maintenance areas with few in white-collar areas. Ethicon's attempt to widen the programme to non-production areas was unsuccessful, partly because it coincided with the general decline in the programme. The incidence of circles in certain areas was also influenced by the known attitude of certain managers - to some extent, all five companies in the research chose areas where they felt the local manager would be supportive, regardless of the nature of the task performed in that department. There was a natural limit to developing in this way.

The technical environment affected the pattern of work in the five companies, particularly where shift work was involved. In Ethicon, Prestwick Circuits and National Semi-Conductors, the problems created by shift-working were raised on a number of occasions. To some extent, the circles were expected to solve this problem as one of the many they would encounter. However, it was not a simple task. While the circles did come up with solutions, there involved elaborate schedules for meetings. Only with goodwill on the part of the members did these work. In addition, one circle at National Semi-Conductors had as its leader, a supervisor who was on a different shift. Of the problems facing circles at

Ethicon, shiftwork was identified as a major one. For example, one circle in the Sighthill plant was drawn from the same shift but needed the co-operation of the other shift in data-gathering for its project. The workers on the other shift were indifferent to the circle's operation and refused to help in the data gathering.

Technology also affected the extent to which a circle could define and investigate a problem in its own area, or whether, because of the interdependence of the technical system, problems invariably involved other areas, or other departments. While it is strongly recommended that circles concentrate on issues which are internal, it was often difficult to adhere to this restriction. At times, the circle could find that they had alienated the manager of another department by the investigation they had set up - this was shown in the case of the Industrial Engineering circle at Ethicon where neither the local manager, nor the manager of the other department affected supported circles.

(iii) Size

Direct participation through quality circles has been tried in a variety of organisations, but no clear picture emerges as to the influence of organisational size.

The five companies ranged in size from IBM with 3,000 employees to Prestwick Circuits with 400 employees. The other three companies were similar in size. Clearly, as Hill (1986, p.26) suggests, larger companies may be more willing and able to devote resources to a quality circle programme. This certainly seemed to be the case at IBM, where the quality circle programme was one of a number of initiatives on quality and new forms of working. A senior manager had been allocated to this programme, and a full-time facilitator to the quality circles. The circle programme was well resourced, with a range of rewards available to the participants.

However, as suggested earlier, size of company may have been less important than scale of the quality circle programme. At Ethicon, for example, the first 15 circles were established within nine months; the programme then appeared to meet problems in growing further and establishing circles in other areas. It may be that once circles have been introduced into relatively receptive areas, the barriers in areas where they are less welcome (because of management resistance, for example) may prevent any further development.

While three of the companies, Ethicon, Hewlett Packard and National Semi-Conductors, were of similar size their experiences with circles varied. Even within each company, circles fared differently, some well, some

poorly. The question of size of work unit was mentioned in two contexts at Ethicon. While most employees worked in the largest site, at Sighthill, there were two smaller sites, Braiding at Livingston, and Fountainbridge, where circles also operated. During the interviews, it was suggested that circles were unlikely to succeed and become institutionalised in Sighthill, as it was too large, but they were likely to thrive in Braiding, where, because of its small size, everyone knew what was going on, and there was more of a 'family' atmosphere. It is not possible to conclude whether size was significant, as the department manager at Braiding was a zealot for circles and determined to give them all the help he could.

(iv) Structure

The previous three factors, autonomy, technology and size affect organisational structure. On the last factor, it could be that with increasing size comes increased complexity and the greater likelihood that participations may not succeed. Larger organisation have a more complex structure, more channels and media of communication, and an increased information processing load. These factors combine to make it easier for information to be lost, ignored, distorted or misinterpreted.

However, quality circles did not merely slot into an existing communication network, they also created new

channels. Quality circle members could approach senior managers for information, bypassing their manager, who was often unable to discover what project the circle was engaged on. This issue affected the balance of power in the relationship between manager and employee and will be discussed further in that context below.

The structure of the five companies who took part in the research could be said to be 'organic' rather than 'mechanistic', to use Burns and Stalker's (1961) classification. As Clegg and Wall (1984, p.438) suggested, there was scope for participation at all levels but the lateral divisions made participation difficult - participation, even in quality circles, was limited to individual areas.

Previous research by Beaumont (1985) indicates that the incidence of employee involvement is higher in newer plants, and this is borne out in the present research. The four companies from the 'new technology' industries were in modern buildings on small industrial sites. Ethicon was also located in an industrial estate. All five adopted policies which promoted strong identification with the company, offering better than usual benefits and conditions of work. There was general and widespread support for the involvement of employees in decision-making, and especially in Hewlett-Packard, a tendency for the relationship between manager-supervisor-employee to be fairly flexible and informal.

However, quality circles, to be successful, must be fairly formal in that meetings and scheduled to allow progress to be made on the topic under investigation.

The circles sometimes found it difficult to operate with this degree of formality. In addition, at times the circles members or leader might realize that to the manager, the circle meeting was of little importance. Essentially, the quality circles could operate successfully only if they developed a degree of formality which was not usual within the organisation. The flexible relationship between manager and operator was changed when the operator became a circle member. The manager did not have the direct authority to question the circle member about the progress of the investigation, and some ill-feeling arose.

Project choice was also affected by organisational structure. The companies in this research were, like most, territorial and outsiders were rarely welcome in the affairs of another section or department. However, as was mentioned earlier, there are many areas of interdependence in organisations and problems experienced in one area may be caused, not internally, but externally by another section. IBM coped with this by making a proportion of their circles interdepartmental or cross-functional: the other four companies attempted to define projects narrowly so that little friction was created.

Nevertheless, circles at Ethicon did experience some difficulty in getting the co-operation they needed from workers in other areas.

(v) Nature of the Product and Product Market

With four of the five companies in electronic engineering, the product market could be said to be unstable and volatile. IBM, National Semi-Conductors and Hewlett-Packard had all experienced several major changes in the market. All four of the electronic companies were in a market which was constantly changing, where new products were being developed constantly and competitiveness was very high. Ethicon's market was not so volatile but it is a company with a strong position in a competitive market which demands products of extremely high quality.

The advent of circles also came at a time of widespread economic recession which brought with it fear of unemployment. Of the five companies, National Semi-Conductors was worst hit and the plant at Greenock suffered badly, losing a large number of employees. The effect on morale was noticeable, to some, circles became an unaffordable luxury and an irrelevance and their decline accelerated.

(vi) Social and Cultural Factors

The extent to which quality circles are appropriate to British organisations remain an open question. As described by Broad (1987) and Cole (1979), Japanese organisations have integrated quality circles into their organisations' systems - technical, reward and communication. In the five companies in this research, the circles were never more than peripheral to the operation of the departments in which they operated. The projects they undertook were sometimes seen more as indications of management failure than as attempts to resolve small-scale local difficulties. As has been pointed out, by Takeuchi (1981) amongst others, the Japanese worker is accustomed to working in small groups and accepts that the foreman will act as an appraiser on whom his bonus will depend. For the Japanese worker, participation in, and successful operation of, quality circles is not voluntary but obligatory. Nevertheless, as Cole (1980, p.30) points out, even in Japan management have difficulty keeping the circles operating effectively.

For the British workers, the incentives to join and participate in quality circles are few. There are no financial benefits and limited opportunities to experience intrinsic rewards. As Jones (1983, p.102) suggested, if circles are incompatible with the existing climate of the company, they cannot simply be grafted

onto the organisation, but require alterations to management attitude. Unlike Japan, the norm in Britain is not for a worker to identify closely with a work group but to work as an individual, being rewarded for his own contribution and achievement.

8.4.2 Propensity to Participation

(i) Workers' Propensity to Participate

(a) Attitude

According to previous research by Ramsay (1976), Wall and Lischeron (1977) and others, quality circles offer workers the type of involvement they most value - immediate, direct, job-related. The attitude of employees to quality circles was not considered in depth in this research and it is not possible to draw definite conclusions from the data. Nevertheless, the points which do emerge have been outlined in the Meyer and Stott analysis of members and non-members.

In terms of the attitudes of the circle members and their effects on the outcome of the circle programme, it could be that their commitment depended on their freedom to participate voluntarily, the training they received and the extent to which they felt their contributions were recognised and rewarded. At Ethicon, for example, the presentation by the circle acted as a focal

point for drawing them together. While there was frequent mention of the stress experienced by circle members, the feeling was that the sense of achievement the members felt made it worthwhile.

As Jones (1983, p.98) had suggested, the selective nature of the circles did tend to create 'in' groups and 'out' groups and this affected the extent to which assistance from non-members was forthcoming. Certainly, at Ethicon, there was a feeling that when the circles needed to draw on outsiders to collect information they did not receive the levels of co-operation they needed.

(b) Capacity

Some questions remained unanswered about the quality and appropriateness of circle members training, and the ability of the members to utilize the techniques in analysing data from their investigations. From Ethicon suggest that the circle members found the data analysis difficult and often the leader or facilitator had to assist the circle members. In Hewlett Packard, the most well regarded circle was from the tool room, where members were already familiar with circle techniques and were technically proficient. The issue of integrating new members was never satisfactorily resolved, although at Ethicon there were suggestions that a central

training programme for new members might be developed.

As was discussed above, the Japanese spend a great deal of time and effort on developing the skills which circle members will need. They also draw on the extensive mathematical and statistical background which workers bring with them to their employment. The question of previous knowledge is not addressed in this research, but it may be that British workers are less able to undertake technical projects with the same aclarity as their Japanese counterparts.

In general, the training materials used by the five companies offered an adequate introduction to the statistical techniques and methods of problem solving which the circles would employ. They also covered preparing for presentations. The leaders were given some insight into group working but training for the members concentrated more on the technical than the interpersonal skills. As suggested above, there was a possibility that the circles were not given sufficient time to understand and apply the techniques and put them into practice - at Ethicon, the rush for results may have hindered some circles' ability to solve problems effectively. In other words, the training materials

were not at fault but there may have been aspects of the process rushed or overlooked.

(c) Power

In the earlier review of research on quality circles, three issues in the context of workers' power were raised; circle membership, project choice and solution implementation.

None of the five companies in this research aimed to have more than 10-15% of the workforce in a quality circle. IBM's initial desire to involve all managers in circles was soon found unworkable. However, even when the programme was voluntary, it seemed that the manager would put pressure on members of his department to join a circle. In general, the pattern of soliciting members evoked a sufficiently positive response in all five companies although the PA International Survey at Ethicon suggested that the interest in joining circles was greater than it appeared on the basis of the number who volunteered.

Psychologically, it is important that the members felt under little pressure to join - their decision, if made freely, would encourage them to contribute more to the circle. On a number of occasions at Ethicon, an instance was described where either a

circle leader or circle member was in a circle unwillingly and this was seen as a most undesirable circumstance. In the same way, from what was said in interviews, there were instances in Ethicon where a circle was producing little of value and wished to disband but was not allowed to do so by the facilitator. Few circles survived for long in this state.

Project choice has been dealt with in some detail above and can be seen as one of the structural weaknesses in quality circles. The difficulty of identifying and solving a serious problem without creating more political problems arose again and again and was not satisfactorily dealt with by any of the five companies. Where management began to set the agenda by identifying projects for circles or limiting what the circles could do, further difficulties arose. Also, over time, perhaps after eighteen months operation, the pool of appropriate projects had been depleted and the circles were left with little idea of where they should go.

Closely related to choice of project is the next stage, implementation of the solution. In Ethicon, there was a high rate of implementation but many of the proposals incurred no cost or only a negligible cost. On the benefits side, it is very difficult to

evaluate the long term savings which any proposal might bring about as placing cash values on proposals is a matter of judgement. Most of the companies played down the financial savings maintaining that, for them, the non-quantifiable benefits were more important.

For the circle members and leaders, delay in replying to their suggestions was a major source of frustration but could be used by a reluctant manager to discourage the circle. Similarly, a manager at Ethicon had allowed a circle to proceed with their investigations knowing that the situation would be resolved in another way shortly.

This issue, solution implementation, was on a precarious balance. A sympathetic management, as in Hewlett Packard, could ensure that circle solutions were more readily adopted but might risk antagonising non-circle members. Similarly, solutions which were not really workable could be adopted which could create ill-feeling toward the circle. The non-provision of a separate budget made implementation problematic - the circles could not be seen to be jumping the queue in having their proposals adopted.

To be fair to the managers, not all delays were caused internally. There were instances where a circle required information from a supplier which was difficult to achieve, showing the circle how little power it had. In other cases, the collection of data took a long time and the circle, unused to these delays, became impatient for results. A manager at Prestwick Circuits criticized one circle which made changes as it went along, making comparisons of their solution impossible.

(ii) Management's Acceptance of Participation

The three factors which affect management's willingness to accept participation - attitude, capacity and power - have been covered in great detail in the Meyer and Stott analytical perspectives and little remains to be commented on.

(a) Attitude

As described above, a range of attitudes existed within the management group. While the attitude of senior management could prevail, it could ensure neither overall success nor failure of the circle programme. Where senior management attitude was important was in the provision of resources to support the circles.

The ideological position of management in the five companies was similar, close to the 'sophisticated paternalism' model. For all five, trade union recognition was most unlikely, so quality circles were seen less as a means of keeping trade unions out and more as another device to allow some involvement and opportunities for limited participation.

The importance of middle management has been discussed above, as has the significance of the attitudes of foremen and supervisors. Those who oppose circles may do so because they perceive them as a threat to their managerial prerogative or may simply see them as an irrelevance and a waste of scarce resources. Others may have a fundamental distrust of the workforce or may feel that they are incapable of making a worthwhile contribution to the solution of organisational problems, and that therefore quality circles or participation are a waste of time. Within the five companies, all of these attitudes were found to some extent and it is not possible to say that any was predominant.

However, Ramsay (1977), reviewing the consistent failure of participative schemes makes an interesting point which might be relevant to the role of middle management:

> "Significantly (if, perhaps, not surprisingly to a sociologist) many of those involved saw the failures as related chiefly to the specific faults of individuals or groups within the particular organisation concerned, not least because the tenor of the literature and journalism on participation gave the impression that theirs must be an atypical experience". (p.497).

(b) Capacity

In reviewing the success of quality circles, an issue which must be examined is the extent to which the managers involved with the circles were competent to guide and advise them. The most significant management role was played by the facilitators or co-ordinators, who might also be members of the Steering Committee. Not only did the facilitators have the overall responsibility for the circles, but they also conducted the leader training and were used as back-ups by the leaders when difficulties either internal or external to the circles arose.

In all five companies, there was no doubt but that the facilitators were enthusiastic and sincere in their support for the circles. However, for Hewlett-Packard and Ethicon, the absence of a full-time facilitator became and continued to be a difficult issue. While at both companies, there was an overall co-ordinator, the task of facilitation fell onto a manager in addition to his

other tasks. Finding sufficient time and energy to devote to the circles was not easy. IBM and National Semi-Conductors allocated the task to a specific manager and this helped locate ownership of the programme. In fairness to Ethicon, the part-time facilitators more than anyone else realised that the situation was unworkable and had made repeated attempts to get a full-time facilitator appointed. It was, in effect, the condition they made if the quality circles were to continue.

Nevertheless, while facilitation of the circles was a key issue, it was not sufficient to have a enthusiastic, knowledgeable facilitator. Of all sixteen companies contacted for this research, there was not a single one which was successfully operating a quality circle programme more than five years after the circles had been launched. Of the five companies looked at in more detail, only IBM was still operating a programme but the groups they had did not conform to quality circles on most definitions, despite their use of the term. While incompetence of the managers involved with the circles played significant part in their failure, it was one of a number of factors.

(c) Power

The interest-group and systems perspectives of Meyer and Stott have already covered many of the points relevant to discussion of this factor in Walker's framework. To draw the discussion together, a number of general but related questions can be asked: to what extent is it possible to delegate managerial authority? If so, what kind of power or authority can be delegated? Is it possible for quality circles to operate independently in large, complex organisations? All of these questions are fundamental to the issue of participation and can be asked of any effort to extend decision-making within an organisation. They are examined in that context in the following chapter.

CHAPTER 9

9.1 Quality Circles, Power and Participation

Few people deny the right that workers have to become involved in issues at work which affect them directly. As has been pointed out, most people are willing to participate, to a limited extent, in matters which have direct meaning for them. Worker participation of one kind or another has been with us for a long time and continues to attract attention, from management, trade unionists and academics.

The conclusions from the present research suggest that, in quality circles, we are witnessing yet another failed attempt genuinely to involve workers in a most elementary way in decisions which affect them. For all their ideals of giving those at the bottom of the organisation some say in how their work is organised, circles have not succeeded in having any significant impact on organisational decision-making. Those projects which were claimed as successes tended to be of the "tea, towels and toilets" kind, to borrow Ramsay's (1977, p.482) expression. That quality circles could become another means of dealing with triviality was raised by Juran (1982) who cautioned:

> "a company which tries to solve its quality problems through the QCC concept is not putting first things first. It may well make progress - on the trivial many - the minor part of the total. In doing so, it will delay action on the vital few, where action is most urgent" (p.21).

Supporters of circles might take issue with Juran and maintain that it is exactly those trivial problems which quality circles are best suited to. However, as has been seen, when circles have dealt only with this type of problem, support for them began to evaporate. Those managers who were critical of them claimed that they were not making a viable contribution and, that given the amount of resources they consumed, they were not giving a fair return on the investment.

The inability of quality circles to have a noticeable effect on the organisation and deal with more important issues was due to a large extent, to their remit, which clearly prescribed those areas where they could and could not investigate. By definitions, they were given limited scope. This limitation extended into the extent to which they could take autonomous action. Bradley and Hill (1987) compare quality circles with other QWL innovations and conclude that quality circles are severely limited:

> "they do provide participation, in the form of involvement in the decision-making process and consultation with management, but they do not provide an area of autonomous decision making which allows members both to formulate and to implement 'need-satisfying' work related decisions" (p.77).

This issue, project choice and implementation, points up the central dilemma for quality circles. To a large extent, they were constrained in the type of project they could undertake, both for operational and political reasons. If they chose a 'trivial' topic, for example, lighting, housekeeping, materials handling, they were criticized as being wasteful of the

resources devoted to them. If they tackled a more ambitious project, they often antagonised a manager who resented their interference in his area. Because the quality circle needed the approval of the management to have a proposal accepted, a reluctant or dissident manager could block their proposal by either turning it down or 'filing' it, allowing it to be overlooked and forgotten. The quality circles would become disheartened and often disband.

As was seen earlier, the success rate of direct participation schemes is not good. O'Toole (1980) states that the general pattern of work reform experiments in more than 100 plants in the US was "one of a brief leap forward followed by prolonged backsliding" (p.126). Other comprehensive studies suggest that the records of recent participative management initiatives is also poor (Levitan and Johnson, 1983, p.9), with the majority functioning for less than five years. Indeed, Levitan and Johnson claim that where QWL programmes do not meet management's goals, these programmes are scuttled and gains in worker satisfaction are lost. Quality circles, they claim,

> "leave corporate power structures unchanged and give workers no alternative to confrontation for protecting and advancing their own interests" (p.10).

Management wish to retain the final decision-making authority, and are unwilling to surrender their power to reject recommendations from the quality circles. The perception by the workers, that these schemes are no more than shams, is understandable under these circumstances. Marchington and

Loveridge (1983), in an examination of participation potential, conclude that managers were willing to accept participation only in areas which were of less importance to them, and to the organisation: "joint decision-making was confined to relatively safe areas of the business, whilst unilateral decision-making continued in those areas felt to be crucial to the future well-being of the firm" (p.82).

Criticisms of direct participation were presented in the early part of this research, where it was described as "akin to pseudo-participation". Fatchett (1979) picks this point up:

> "Advocates of direct participation have usually based their appeal to management on two notions: firstly, that participation will be limited to the immediate task environment, with no reference to the broader, structural questions which are inevitably linked to the well being of the individual worker: and secondly, that the prescribed form of participation flows from an assumption that there are no differences of interest, or conflict over organisational aims and objectives" (pp.247-248).

A form of participation which is often mentioned in this context is the Scanlon Plan, where using participation-through-productivity committees and suggestion schemes, workers are encouraged to contribute. One of the more widely publicized schemes was that at Chrysler in Linwood, which after initial success, began to run into difficulty. Gray (1971) examined the claims by management that difficulties were caused by lack of initial goodwill by workers, that workers were interested only in the money, or that the suggestion vein was worked out. He refutes these management rationalizations, tracing the problem instead to the inadequacies of the unitary, neo-human

relations philosophy underlying the Scanlon Plan. According to Ramsay (1980), Gray notes "that there is no convincing account of any such scheme being successful and concludes that the entire perspective it embodies is incapacitated by its inadequate appreciation of the reality of industrial conflict" (p.54).

Singer (1974, p.351) concludes that there are actually two significantly different models of participative decision-making, a human relations model and a human resources model. The former attempts to manipulate workers into feeling that they are useful and important so that their morale will be raised and thus, their resistance to authority reduced; the latter assumes that participative decision-making is useful for its own sake. It assumes that workers are capable of exercising initiative, responsibility and creativity, and, by tapping these resources, management will improve the quality of the decisions and optimize the efficiency of the organisation. To achieve genuine participation, Singer concludes, decisions that are being made must be about significant and relevant issues and supervisors must be committed to employee involvement and willing to trust them.

According to Baritz (1960, p.186) the concept of participation, like motivation. is a fundamental prop of the human relations approach. As long ago as the 1950s, there were claims that employee participation in management decisions "actually converted radical workers into 'sound' management-oriented

employees" (p.187). In early techniques of this type, modelled after the famous Hawthorne Studies, workers were divided into small teams "to fragment the labour force and make managerial control of it easier", according to Corey (1950, p.50). Group dynamics were used as a means of controlling dissident members and getting them to accept what management wanted them to accept. Essentially, says Baritz (1960), this was not an example of true participation but "merely another in the long string of personnel devices that have been used by management further to control labour" (p.188). Both social scientists and managers refused to admit the power of management, but viewed the problem of the distribution of power in human relations terms. The industrial psychologist, accepting the norms of the management elite, did not function critically. Instead, he was serving the industrial elite and supplying those techniques which were helpful to management goals and abandoning "the wide obligation of the intellectual who is a servant of his own mind" (p.194). As a technician, the psychologist was forced to produce results for management: he became committed to management goals and this coloured his research and recommendations. Trade unions were seen as the refuge of the stupid, overly emotional and class conscious who had no recreational or aesthetic interests, were insane and afraid of responsibility (p.201). These early psychologists disregarded other reasons for joining unions such as the need for equalization of power, or the need for economic sanctions. The problem of the distribution of power was seen by the psychologists in terms of human relations, terms that stressed

motivation, participation, democracy and so on (p.181). Koruhausen (1947) claimed that industrial psychology was becoming a management technique rather than a social science, and complained that:

> "psychological activities for industry ... are characterized by the fact that business management constitutes a special interest group which manifests its special viewpoint in respect to research as in other matters ... certain areas of research are taboo, certain crucial variables must not be dealt with. We must avoid explicit analysis of the broad and basic problems of power and authority in economic life" (p.225).

It would appear that the modern day consultant is the inheritor of this tradition, particularly those who follow the American psychological tradition of human relations. They share management's perception of authority as the right of the manager to make decisions with little reference to the needs of the workforce. According to this view, quality circles can be seen as taking us little further than the group dynamics techniques described by Corey. Consultants, after all, are in the pay of management and are contracted to devise means of making management goals more readily achieved. That there is a lamentable absence of theoretical research in this area would seem to confirm that criticisms of applied psychology made over forty years ago still ring true today.

From the data gathered in this research, the evidence would seem to indicate that circles did not present workers with a real attempt at participation, despite the claim that this was one of their objectives. There was, among some managers, a reluctance to share information with the circles and a lack of

trust in the circles' ability to succeed. At Ethicon, clearly some of the senior management and middle management doubted that the circle leaders and members were capable of making a useful contribution. In IBM, where a programme was continuing, there was little attempt to concede responsibility for running circles to supervisors or non-management employees. However, when the companies in the research discontinued the quality circles, they did not entirely abandon the philosophy of allowing workers to address issues which concerned them. It was the techniques they retained in the form of Total Quality Control, Quality Improvement Process, Company-wide Quality Control (CWQC) or some similar programme - they rejected the innovative, participatory nature of quality circles, where circles allowed the workers, albeit in a limited fashion, to exercise some control and judgement over their own work. The principal difference between the approaches was that in TQC, QIP and the rest, power to direct the group returned to the manager. Paradoxically, as Rieker (1983, p.16) points out, the Japanese first developed CWQC down through the organisation before introducing quality circles; for them, CWQC and quality circles are interdependent, with the one unable to survive without the other.

Using quality circles as a transitional device in moving to a more participative management system and culture was raised by Lawler and Mohrman (1985, p.70). The discovery of the limitations of quality circles causes managers to look for a means of allowing employees to work on issues which extend

beyond their immediate work area. Management can either expand participative activities, drawing people from different work groups and levels to work together, or it can transfer decision-making authority to the circles and provide them with the resources and expertise they need to deal with organisational problems. Neither of these options produces a stable situation or represents a workable long-term approach to participation. The progression involves changes to job design, personnel policies and reward structures and training. It means management must trust work groups with responsibilities. Lawler and Mohrman (p.71) suggest that managers who want to adopt a participative philosophy should avoid using quality circles as a first step because the transition is difficult. Even if it succeeds, it is long and rather inefficient. In this research, it is debatable whether any of the companies had introduced circles primarily to introduce or promote participative management. Rather, their move from quality circles to TQC, QIP and so on can be seen as an effort to salvage something from the ashes of quality circles, and gain some return on their investment.

The operational difficulties for the quality circles stemmed from the issue of project choice and solution implementation. As Guest (1979, p.21) points out, this issue complicates any definition of participation, not just in terms of the content of the project but on its implementation - the distinction between decision-making and decision-taking:

> "In practice this becomes a question of whether workers exercise influence or control. Managers and their spokesmen have often expressed concern that participation might compromise the position of the manager. To maintain his accountability, it is argued, it is legitimate to encourage participation in the formulation of decisions through presentation of information and argument, but the manager alone should finally take the decision. In this sense, workers may influence management decisions through participation but they would not exercise control, as management can choose whether or not to be influenced" (p.20).

If quality circles are placed on a continuum of control as Guest suggests, it is clear that they offer only limited opportunities for workers to participate in joint decision-making. This factor, combined with the insubstantive nature of many of the projects undertaken by the circles, reduced their impact considerably. Richbell (1976) suggests that there is a tendency for management to concentrate too much on the establishment of the participative scheme and too little on how groups within the organisation perceive it during its implementation, perhaps overlooking the attitude of middle management. In addition, participative schemes aim to change attitudes, which are affected by perceptions: "if workers do not perceive that they have increased the amount of their control in the work situation, then they are not likely to develop attitudes of commitment and involvement" (p.15).

Knight (1979), reviewing the problems associated with participation and organisational change describes the paradox:

> "in order to make participation a success, management will have to find a way of relinquishing its initiative, of sharing control. If management keeps the initiative and retains full control, it has, almost by definition, failed to establish genuine participation" (p.267).

According to Knight (p.268), the introduction of participation should be viewed in the same way as introducing any other form of organisational change. Its failure will occur for the same reasons as any change can fail to be effective: unclear objectives, lack of time and resources, insufficient commitment, resistance from those who see it as a threat to their vested interests or upsetting a power balance which they want to preserve, or because it fails to deal with the real problems and gets pushed to the side at the first crisis.

The resistance which the quality circles encountered in this research was mainly from departmental and middle managers who resented the circles involvement in areas which the managers regarded as their responsibility. As has been pointed out before, the five organisations on which this research is based were all staunchly non-union. In fact, they could clearly be regarded as "sophisticated paternalist" organisations, to use Purcell's (1983, p.12) term. They typified the unitary view of the organisation, where all members are expected to rally around common objectives, and to respect the right of the manager to manage and the duty of the employees to obey. As Morgan (1986) points out, "unitary managers tend to see formal authority as the only legitimate source of power, and thus rarely acknowledge the right or ability of others to influence the management process" (p.187).

This view was typical of the unsupportive middle managers in all five organisations. It was apparent in Ethicon that even the managers who supported circles, acting as facilitators, were ambivalent about allowing the circles freedom to choose their own projects. Early on, they anticipated that the circles would want to be involved in areas which the managers considered inappropriate.

It is interesting to note that quality circles have been adopted by a far greater number of non-union organisations, or introduced into areas where harmonious industrial relations exist. This was brought home in the search for a representative sample of organisations with quality circle to participate in this research. Even though five of the sixteen firms identified as being interested in or involved with quality circles were unionized, when approached to request their participation, none of them had healthy quality circle programmes. Ferranti was unable to get union co-operation, Proctor and Schwartz had started twice but folded due to problems with the unions, Scottish and Newcastle (Edinburgh) was in the process of reorganisation, Cameron Iron Works had encountered major difficulties with the union and ceased operating (although they did a re-launch later on) and Marconi's programme had also collapsed. While trade union disagreements were not directly responsible for all the circle failures, it was clear that the unionized companies were far more wary of the problems which unions might raise over quality circles. The instance of Ford and its high profile failure to

introduce circles was quoted by interviewees on a number of occasions in the unionized and non-unionized organisations. (According to Morley (1979, p.278) most exercises in job enrichment also occurred in non-union establishments).

The absence of trade unions is an issue which would benefit from further research. It is an area which most industrial relations researchers pay little attention to but it is one where there are major implications for the distribution of power in organisations. In addition, as Levitan and Johnson (1983), point out,

> "Without unions, outside observers cannot get the information to distinguish between paternalism and participation and to develop a true picture of workers' attitudes. The criteria for assesing participative management in nonunionized companies are disturbingly dependent on management's perceptions" (p.9).

For them, the true test of quality circles is in unionized environments. Levitan and Johnson consider that little has changed in the 1980s in the attitudes of either management or labour; "participative management may produce limited gains for employers and partial benefits for workers, but they will not usher in a new era of labour-management co-operation" (p.9).

9.2 Discussion of the Research

Despite the differences between the cases, it is apparent that similarities can be identified, particularly in the following areas; objectives, introduction and implementation, process of problem solving, training and expertise, and effects on the organisation.

(i) Objectives

In general, most of the companies did not expect quality circles to bring about large financial returns or significant changes to their work processes or products, but regarded them as a means of developing people and their ability to solve problems. While these were laudable objectives, they were not easily quantified. In consequence, when the programme began to falter, as in most cases it did, identification of significant successes was difficult. Critics of the circles, and those who had become disenchanted, could then make a credible case for not continuing them. Expectations of what could be achieved through circle activity may have been too high, so that the modest successes they achieved seemed far less than the participants had been led to expect.

This point is particularly relevant in the context of the Japanese connection. All companies were aware of the high incidence of quality circles in Japanese industry and of the elaborate claims made for them. Either implicitly or, more often, explicitly, there was a suggestion that quality circles represented the essence of Japanese co-operation at work, and could be borrowed and successfully transplanted to British and American companies. Unlike the Japanese companies, with their painstaking preparation over ten years, these companies

were led to believe, often through consultants' hype, that they would begin to achieve some of the benefits in a relatively short time.

The impression given by some of those involved in circles was that they did not really know what to expect from quality circles but everyone else was doing it, so it was worth trying, surely some good would come out of it. Unfortunately, as at Ethicon, a good deal of disillusionment and feelings of failure were the outcomes, particularly for members and leaders.

(ii) Introduction and Implementation

Consultants were used by all companies except IBM, who used their own material based on Rieker's. In general, the euphoria built up at the launch of the circles seemed to last a year or so. Problems which did emerge in the early period were thought to be insignificant, although in some cases they returned later on to dispel this complacency. In their haste for results, some companies, particularly Ethicon, seem to have rushed the early stage of the programme and not taken a pace which allowed the participants to understand fully how the techniques could be best used. Generally, the companies resourced the programme adequately although they did not fully appreciate the level of commitment which would be involved, both in terms of man hours and finance. Interestingly, none of them offered any financial reward

to the circles although Ethicon seemed to be considering it at the end.

Perhaps the greatest error at the early stage of the programmes was the failure to involve middle managers, foremen and line managers. In most cases, this was deliberate, not accidental, and middle managers clearly resented the treatment they received. Had the circles found their task easier, this oversight might have had little effect. However, with hindsight, it is apparent that without line and middle management support, none of the circles could survive for very long, nor hope to get their proposals implemented.

(iii) Process of Problem-Solving

Project choice was the most difficult area circles had to deal with in all of the cases, and none of them found a way to cope with it satisfactorily. To some extent, brainstorming proved a useful technique in identifying projects but, the organisational politics made the process very sensitive. Some managers felt threatened because they considered that if a problem was worth investigating, it should be tackled through normal channels. Others were quick to dismiss the projects, claiming that they were trivial and insignificant or insoluble and overambitious.

Quality circles also ran into problems in collecting the data they needed when they were unable to secure the co-operation of non-members. Presentations, while they were often well regarded, were sometimes used by sceptical or antagonistic managers as an opportunity to criticize a circle or dismiss their results. Major problems arose for circles in getting their projects accepted and proposals implemented. There was no separate budget in any of the companies to allow for implementation of solutions. In some instances they were allowed to take precedence, which irritated some managers not directly involved, while in others, they were forced to take their place with other proposals and were never dealt with, to the great disappointment of the circle. Having to work through the normal channels forced circles to seek the assistance of the manager. A manager who was unconvinced could make his views felt to great effect by refusing to resource or promote their proposal.

(iv) Training and Expertise

The training courses were generally well thought of but their effectiveness was more in doubt. There were strong indications from all the companies that the circle leaders and members were not using the problem-solving techniques fully and some suggestions that they were unclear about what the techniques were designed to achieve. However, more reservations were expressed about the use of non-technical skills - group work skills,

leadership, communication, motivation - which were seen as central to successful operation of circles.

Problems of training also occurred when new members joined circles which were well established. It was difficult to integrate new members successfully without constantly disrupting ongoing investigations and preparations for presentations.

Facilitation of circles was more of a problem in those companies where the position was not full-time, as has been shown in Ethicon and Hewlett Packard. In addition, some of the facilitators assumed too much responsibility for the success and failure of the circles and tended to take over, making the relationship with the circle leader and members very strained. Clearly, the competence of some of those managing the circles, as co-ordinators or facilitators was open to question. However, it was with the circles' departmental managers that the facilitators had most difficulty. As outsiders to the quality circle process, the local managers had no authority to question what was going on and had to rely on relatively poor information. They clearly resented this and, to a large extent, blamed the facilitators for not keeping them better informed.

(v) Effects on the Organisation

None of the five companies was unionized. Quality circles, in most cases, offered members a limited forum to participate directly in decisions about their work, and represented a step towards participation. Their failure to achieve even this modest goal may demonstrate the strength of the opposition from other levels in the company, particularly lower level management. In all cases, most senior managers were enthusiastic for circles, but the circles never affected senior managers in the way in which they affected departmental and middle managers. The middle managers had little to gain by having circles in their area and saw them more as a threat to their managerial prerogative, than as an additional problem-solving resource.

Paradoxically, in all five companies, strong support from senior management was seen as counterproductive and a hindrance to the success of circles. It was surprising to see how many, both opponents and supporters of quality circles were contemptuous, even cynical, about the intentions of senior management.

Communication of information presented all five companies with problems. Middle managers and departmental managers were upset by the re-routing of information and bypassing of normal channels which quality circles brought about. In some cases, information was not readily available to the managers, but was known to the quality circle. This

change in the communication network was disliked by the managers who had no means of becoming integrated into the operational side of circles, so were unable to find out exactly what they were doing or what they knew.

With the exception of IBM (whose quality circles hardly satisfy the definition of the term), all the companies had disbanded circles within four years of operation. Prestwick Circuits were still operating circles in 1986. Ethicon, Hewwlett Packard and National Semi-Conductors had moved away from the voluntary bottom-up approach of quality circles to the compulsory top-down approach of a management led programme, whether Total Quality Control or Quality Improvement Process. It is possible that these approaches with their narrower remit, limited scope and greater predicability, are far more acceptable to management.

Quality circles occur, not in a vacuum, but within the internal environment of a company; they both create and encounter internal and external problems, and interact with the existing organisational culture. The difficulty of grafting quality circles onto existing organisational processes is apparent in all five companies.

9.3 Summary

As both the Meyer and Stott and Walker analyses indicate, a complex interaction of factors contributed to the failure of quality circles. From earlier research on direct participation

and on QWL initiatives, these factors were to some extent, predictable, as the literature review indicates. The factors can be summarised under two headings: general to participation, and specific to quality circles.

(i) Factors General to Direct Participation

The fundamental questions raised at the end of the previous chapter remain unanswered, despite the efforts of numerous commentators. To some extent, the issues of power sharing and participation go back to the concept one has of power, whether it is seen as finite or infinite, a zero-sum or non-zero sum view of power. It appears from this research that quality circles encountered similar problems to all other attempts to introduce participation, the suspicion by some of those who had power that another's gain would inevitably mean their loss and an unwelcome shift in the balance of power.

The issue of delegation also arises here. In a quality circle, the circle assumes some responsibility for its own affairs, selecting its own projects and gathering data. However, in the final analysis, the impact of their findings would be felt by the whole department and the task of undoing any damage caused by the circle would fall to the manager. The managers who were unsympathetic to circles in their department considered that if anything went wrong, they, and not the circle, would be left to clean up the mess. In addition, these managers

were unsympathetic to the circles as they often felt that they were better informed about the issues which the circle was investigating and resented the circle's existence.

It does appear impossible to graft quality circles onto an existing organisation without affecting the internal environment. A number of internal systems are affected and need to be changed, for example, the reward structure, the communication networks and the decision-making mechanisms.

(ii) Factors Specific to Quality Circles

As well as raising general problems, quality circles create specific difficulties. Primary among these are the question of resources and expertise. As has been mentioned, the five companies did appear to resource their circle programmes well initially, allowing consultants to be engaged and facilitators to be appointed. The difficulties of running circles with only part-time facilitators are apparent in the two companies without a full-time facilitator. Nevertheless, the other companies did not fare significantly better. Some questions remain about the level of expertise and competence these facilitators could offer and the extent to which the training of facilitators, leaders and members equipped them to deal with the technical and political problems they encountered. In all five companies, the early part of the introduction of circles

was particularly ineptly handled and these oversights were to have significant negative effects later on, especially in relation to middle management.

The success of quality circles inevitably is judged by their tangible results in terms of problems solved or pounds saved. As has been mentioned, project choice and solution implementation were major sources of difficulty for the circles. Projects which were of the right level of complexity were limited and the supply was soon depleted. In addition, the process of data collection caused friction both between the circle members and non-circle members and between the circle and the manager. Finally, where the circle had to rely on the manager to agree to their solution and make the means of implementing it available, further problems could occur.

The role of the facilitator, a non-Japanese innovation, created a number of inter-management conflicts. In some cases, the manager of a department where a circle was operating was ignorant of the subject of their investigation. He would perceive the facilitator, another manager, as an unwelcome intruder in his department. The facilitators also had a vested interest in keeping the circles going and ignored early signs that problems were occuring.

It does appear that, given the number of difficulties circles had to overcome, their chances of success are

extremely limited. Not only do they have to negotiate the hurdles encountered by any form of participation, they also have to deal with specific problems.

9.4 Conclusions

The failure of quality circles can be attributed to a number of factors, some general to direct participation, others specific to circles themselves. To some extent, incompetent management played a part. In addition, fundamental questions about the feasibility of delegating authority remain unanswered.

Some good did come out of the quality circles as the research indicates. However, the impression gained in speaking to those involved was that what appeared to be a simple technique to get people involved became a source not of pleasure and pride, but of disillusion and disappointment. These results are consistent with evidence from other interventions of their type, which suggest that, properly nurtured, they can bear considerable fruit (Steel et al, 1985, p.117). However, if the organisation fails to provide sufficient support either from management or in terms of resources for operation and training, the intervention may fail. The consequences of failure are serious - as Bennis (1979, p.214) suggests, when done badly, interventions such as quality circles may ultimately do more harm than good.

CHAPTER 10

10.1 Summary and Conclusions

The data on which this thesis is based were collected over a three year period, September 1983 to June 1986.

Of sixteen organisations approached, only five were considered suitable for more detailed research. These five were visited on a number of occasions during the data collection period and interviews were conducted. The focus of the interviews was management's role in the operation and success of quality circles. In the final stage of the research, one of the five companies was investigated in greater detail and more interviews a survey was conducted.

10.2 Assessment of the Research Methodology

10.2.1 The Sample

Despite efforts to attain a mixed sample of manufacturing firms operating quality circles, only five of the possible ten were willing to co-operate and had a circle programme in operation. All five were non-union companies and four of the five were American-owned. With the knowledge that the sample was limited, there was little possibility that it could be altered as no unionized company was at that time operating circles.

To allow for the possible effects which a narrowly drawn sample of this type might have, the implication of non-

unionism have been considered where appropriate. The real possibility was raised and remains that non-union firms are more likely to adopt quality circles because to them the circles represent the level and form of participation which is appropriate. As has been shown, organisations where the management ideology is unitary and where authority is firmly held by the management will find in quality circles a form of participation that suits them.

Nevertheless, it is important neither to overgeneralise the results of this research, nor to consider them too limited. While the five organisations might be atypical of British manufacturing industry generally, they may not be atypical of those organisations which consider the introduction of direct participation.

10.2.2 The Research Strategy

The decision to employ a multiple case study approach was taken with the acceptance of its demands. To some extent, the case study method was chosen because the alternative strategies were inappropriate for in-depth research. Nevertheless, for this researcher, far more familiar with the experimental and survey methods, the case study represented a new departure and at times seemed unwieldy, tentative and inconclusive.

In the light of the limited sample on which the research is based, it was important to ensure that the research was as

unbiased as possible, demanding continual vigilance and checking of data for their reliability and validity. Despite these problems the case study allowed the researcher to gather data which are ecologically valid.

10.2.3 Data Collection

While the focussed interview was the principal technique of data collection employed in all five companies, a range of other techniques were used to gather supplementary data at Ethicon, the principal case. Background papers relating to the company's evaluation of the circles and to the progress of the circle programme were drawn upon. In addition, a research project conducted by Alexander (1983) provided valuable data on the role of the supervisor as circle leader. In the final stage of data collection, a survey of quality circle members and leaders was conducted to ascertain their views on management's contribution to and role in the quality circle programme.

Overall, there were few opportunities to observe directly the role of management in the quality circles. Attendance at circle meetings provided little data on how the manager affected or was affected by the circles, even though they did allow the researcher to observe the problem-solving process used in the circles.

The sampling of respondents for interview was somewhat opportunistic and required careful management. Rather than

deal only with those who were recommended, contact was made with managers and others who might have been mentioned only in passing by another interviewee but who seemed to hold an unorthodox or different view of circles. In general, the five companies were extremely co-operative and anyone approached consented to be interviewed, even if some lengthy persuasion was needed.

The one-to-one interview was used most often, but the small group or dyad interview was very productive. It was regrettable that it was difficult to organise as it allows the researcher to become an observer rather than an inquisitor.

10.2.4 Reliability and Validity

As outlined in the previous section, every effort was made to ensure that the data collected were reliable and valid. The use of multiple case studies and multiple methods of data collection allowed a wider view of the phenomenon to be developed. Repeated visits to the companies to check on earlier conclusions provided an historical record of the events and people which emerged as significant. They also created opportunities to check on previous conclusions and evaluate earlier predictions, thereby ensuring construct validity.

External validity is limited because of the sample of organisations, as described above. Nevertheless, with a sample of five organisations, there were some noticeable

differences and the conclusions drawn from this research are valid with reference to management behaviour. The literature both British and American, suggests that managers in unionised firms do not behave significantly differently in relation to quality circles than the managers in the five companies studied here.

10.3 The Issue of Middle Management

In its original formulation, the aim of the research was to investigate the role of middle management in the outcome of quality circles and the early pilot interviews were conducted with this aim in mind. However, it soon became clear that an attempt to separate middle management as a single issue which could be investigated in a vacuum was not feasible. To some extent, a problem of definition prevailed. The companies all had different organisational hierarchies and structures and the term 'middle management' was too loosely defined to be in any way useful. It was clear from the literature that other investigators were using the term with different interpretations and there was some doubt as to whether anyone could identify where the distinctions between junior, middle and senior management occurred.

Even when the focus was on middle management, it was evident that there was a range of other issues which needed to be addressed if the reasons behind the failure of quality circles to become institutionalised were to be fully understood.

10.4 Recommendations for Future Research

The evidence presented here suggests that there are structural and human factors which contribute to the inevitable failure of direct participation. Nevertheless, there is a willingness on behalf of those lower in the organisation to contribute to the goals of the organisation, improving their own jobs and overall efficiency. Perhaps it is the optimism of this researcher, but there remains a wish that these abilities can be tapped and that the resources wasted at present can be realised. Given the political nature of most organisations, it is difficult to see how this can be achieved, but an attempt to do so should continue.

There was no intention to limit this research to non-union firms, as has been explained. However, the growth in the number of these firms cannot be ignored as they have serious implication for industrial relations. There is a growing literature (for example, Marchington, 1986) in this area which indicates that economic and technological change will affect the industrial relations environment in which businesses operate. It is an area where the research effort should be stepped up.

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Appendix I Areas covered in focussed interviews with managers.

How did the quality circle programme begin in the organisation? Who initiated it? When? Why?

What were the **objectives** of the quality circles? Were the objectives of quality circles stated clearly to those interested? and did everyone understand the aims of quality circles?

Do you feel you are/were properly **consulted** when

(1) the proposal to start circles was being discussed

(2) circles began in your department

(3) a project is being developed at present

(4) a presentation is made or changes initiated as a result of circle activity?

What **quality improvement programmes**, if any have preceded quality circles? Did they have a noticeable effect on the acceptance of quality circles in the organisation?

How would you rate the successfulness of the previous programmes?

Why did they disband/How well are they going now?

Describe your **involvement** with quality circles

(a) from their beginning

(2) at present

(3) in the future

How valuable do you consider your involvement was? To you? To the QC?

What was the **general feeling** among managers like yourself when the idea of circles was put forward? Were these early feelings accurate?

What **training** did those taking part in the quality circle programme have beforehand

(a) facilitator/co-ordinator

(b) circle leaders

(c) circle members

What did you think of the training you received? Do you know what **briefings** other groups (eg unions/shop stewards) had?

What has the **progress** of quality circles been like since their beginnings?

What have been the major **successes/failures** of the quality circle(s) in your department?

How is success/failure measured? By **whom**? Do you agree with these measures? What would be a fairer or more useful measure?

How much support does **top management** give to the quality circles programme? How would you rate their support for

(a) importance

(b) enthusiasm

(c) effectiveness for initiating change?

How much support do the **trade unions/staff association** give to quality circles? Is their support important? Are there other consultative committees/participation schemes in the organisation? What has been their reaction to quality circles?

To what extent **are you involved** with the quality circle in your department? Is this enough? or could you have a bigger part to play?

How much of your **time per week** is taken up with quality circle activities and meetings? Do you feel you have enough time to devote to quality circle activities? Is the time you give time well spent?

How do you feel about the **extra duties** involved in having a quality circle in your department?

What have been the **main effects** of quality circles on:

(a) your job

(b) your department (generally)

(c) supervisors

(d) other workers in the department, not involved in quality circles

(e) the supervisors not involved

(f) circle members

(g) circle leaders

(h) other managers at your level?

Has working with a quality circle changed your **approach** to your subordinates in any way? If so, how?

Has working with a **small group** presented you with any particular problems?

How do quality circles affect the **development of people** in your department?

How have the quality circles gathered their **information** for their projects? Were all of these channels (means open to members beforehand? Have these channels by-passed you? or interfered with your job in any way?

How well do the **benefits** of quality circles balance up the **costs** (financial, resources time) in starting up?

Do you feel that the existence of quality circles reflects on the **competence** of managers in any way? if so, how?

Has quality circle success been added to your **performance appraisal** in any way? If so, how? What do you feel about this?

Could you tell me something about your own **background, work experience, education, training**? Do you consider yourself a specialist manager or a general manager?

What is your relationship with the **Quality Circle Facilitator**? Has his position affected you in any way?

Do you think that there is **management support** generally for quality circles in the future?

Describe some of the projects undertaken by the quality circles?

Of how much benefit to you/to the department/to the company were the projects?

How would you rate the presentations? How closely involved were you in deciding whether a proposal should be accepted?

Who decided on adoption of a proposal? How was it resourced?

How well resourced is the quality circle programme? Is is adequate/too much/not enough?

Appendix II Questionnaire to Quality Circle Members at Ethicon

Over the past two years, I have been visiting Ethicon to speak to people who were involved with Quality Circles. Unfortunately, in the time I have had available, I have not been able to get around and speak to members of the quality circles, as I would have liked.

I would very much like to know you opinions about quality circles and have drawn up some questions. I would be extremely grateful if you would answer them - I don't think it will take more than 10 minutes as in most cases you only have to tick the answer.

There is no need to put your name anywhere on the questionnaire. All the information you give me is confidential. This research is purely for my own use and is not sponsored by Ethicon.

Thank you very much for your assistance.

Maire Brennan
Lecturer in Business Studies
Napier College

In your opinion, what was the attitude of the following people to quality circles?

	Strongly Supportive	Supportive	Undecided/ Indifferent	Opposed	Strongly Opposed
Senior Management					
Middle Management					
Foremen					
Supervisors (Non QC Leaders)					
Employees (Non QC Members)					

How often were the techniques listed below used by your quality circle?

	Always	Often	Sometimes	Rarely	Never
Brainstorming					
Pareto Analysis					
Cause and Effect					
Histogram					
Check Sheets					
Graphs					

For each statement below, indicate with a tick (✓) how much you agree or disagree with it.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Being in a quality circle was an enjoyable experience					
There was very little support from management for quality circles					
The training given to quality circle members was inadequate					
Even when there was pressure for production, management always made time available for quality circle meetings					
Quality circles were of more benefit to those who took part in them than they were to Ethicon					
Management were too closely involved with the quality circle					
Any information the quality circle requested was made available					
The quality circle was free to look at any problem					
Few people who took part in quality circles would be willing to join a similar group again					
Quality circles did not give their members more say in how their work is organised					
Management always gave a full explanation if the recommendations of the quality circle were not implemented					

On the following table, tick Column A if you expected to achieve the change mentioned through quality circle activity. Tick Column B if you feel this change was achieved.

	Column A Expected	Column B Achieved
Improvements in equipment design		
Improvements in product quality		
Improvements in cost reduction		
Improvements in efficiency		
Improvements in working environment		
Improvements in health and safety		
Improvements in job satisfaction		
Improvements in job security		
Increased participation		
Increased communication skills		
Better communication within department		
Better communication with supervisor		
Better communication with management		
Better communication within company		
Better understanding of company problems		
Better understanding of departmental problems		
Better service to our customers		
Better relationship with supervisor		
Better relationship with management		

Name of your Quality Circle .....

Appendix III Questionnaire to Quality Circle Leaders at Ethicon

I am carrying out some research in Ethicon on the Quality Circle programme which you took part in. I have already spoken to some of you when I visited Ethicon but unfortunately did not have time to see everyone.

I have drawn up some questions which I hope you will find 5 minutes to answer. I have kept them as short and simple as possible. It would be a great help to me in my research if you would complete them.

This research is for my own use only and is not sponsored by Ethicon.

Thank you for your assistance.

Maire Brennan
Lecturer in Business Studies
Napier College

1. Name of Quality Circle: .....

2. Length of time in operation: From ..... To .....

3. Age of Members:

	Under 20	21 - 30	31 - 40	41 - 50	Over 50
Number					

4. Sex of members

	Male	Female
Number		

5. How many members left and were replaced?

	None	One	More than One
Number			

6. Was there a change of leader?

Yes	
No	

7. How often did your quality circle <u>usually</u> meet?

Twice Weekly	Weekly	Fortnightly	Monthly

8. How long were the meetings usually?

Less than One Hour	One Hour	More than One Hour

9. Where did the quality circle meet? .....

10. Were meetings held during working time?

Yes	
No	

Appendix IV W D Alexander's Survey Questionnaire to Quality Circle Leaders at Ethicon

I am a student at Napier College working for a degree in Business Studies and researching a project on Quality Circles. I have been given the opportunity to issue this questionnaire with the premission of Bob Cunningham, of Ethicon.

The project is specifically concerned with the quality circle leader and will be issued to past and present circle leaders at Ethicon.

The circle leader has been called the "linchpin" of quality circles. Because of the crucial importance of circle leaders, their opinions are of considerable value. This questionnaire will ask you how you feel about quality circles, their aims, objectives and benefits.

Most of the questions require only simple ticks or encircling of words, while others you may feel require further expansion. Please do not hesitate to expand your answer to any question on the blank sheet at the back of the questionnaire, if you wish.

Thank you very much for giving up your time to fill in this questionnaire. It should take about twenty minutes to complete and will form a substantial part of my final project.

A. Here are a number of questions about your background. The information will be kept strictly confidential by the investigators. Please answer carefully.

1 Job Title: _____

2 Department: _____

3 Your age: _____

4 How long have you been working for Ethicon? _____

5 How long have you been a supervisor in Ethicon? _____

6 How many people do you supervise directly? _____

7 Briefly describe your main duties and responsibilities:

_____

_____

_____

_____

8 What was your educational level before completing the Quality Circle Training Programme? Please tick:

Primary Education	☐
Secondary Education	☐
Higher Education excluding university	☐
University degree or equivalent	☐
In-House training	☐

B. Here are some specific questions concerning your Quality Circle

1 How long have you been/were you a Quality Circle leader? _____

2 Excluding yourself, how many members are/were in your Quality Circle? _____

3 Are/were all of them in the same Department as yourself? Yes ☐ No ☐

4 How often does/did the Circle meet? _____

5 Are/were these meetings during normal working hours? Yes ☐ No ☐

6 Where does/did the Circle usually meet? _____

7 How did you first hear about Quality Circles?

_____

_____

_____

8 When did you first hear about Quality Circles? Month _____ 19_____

9 Could you state your main reason for becoming a Quality Circle Leader?

---

10 Were your expectations concerning this reason achieved? Yes ☐ No ☐
If YES, what do you now feel is important?

If NO, do you feel it will be achieved in time? Yes ☐ No ☐
If NO, please state why not.

C. One of the main objectives of Quality Circles is to solve work-related problems. The following questions are concerned with this objective.

1 When did your circle start on its first problem? Month _____ 19_____

2 Describe this problem briefly.

---

3 Did you find a satisfactory solution to the problem? Yes ☐ No ☐ Partly ☐

4 Can you now write down other problems your circle tackled, and indicate whether these have been resolved successfully or not, or are still ongoing.

---

5 Solving problems often requires back-up. Did you ever have difficulties in gaining the following:

	Yes	No
Specialist Assistance	☐	☐
Statistical Information	☐	☐
Management Information	☐	☐
Equipment	☐	☐
Other Supervisors' Assistance	☐	☐

If Yes to any of the above, do you feel these difficulties hindered your investigations? Yes ☐ No ☐

6 Did you every have disagreements within the circle over the best solution to a problem? Yes ☐ No ☐

If Yes, how was the final decision reached?

By majority vote ☐
By yourself alone ☐
By using statistical techniques ☐
Other - Please state

---

7 How useful were the techniques taught on the training programmes at solving problems the circle investigated? Please tick

Very useful	Useful	Undecided	Not useful	Useless
_____	_____	_____	_____	_____

8 How useful were these techniques at solving problems <u>not</u> specific to those your circle investigated?

Very useful	Useful	Undecided	Not useful	Useless
_____	_____	_____	_____	_____

9 Have there been any problems the techniques cannot solve? Yes ☐ No ☐
If Yes, could you give an example.

---

10 What did you think of the Training Programme? Are there any parts of it you feel could be:

Expanded	Yes ☐	No ☐
Improved	Yes ☐	No ☐

If Yes, please specify

Are there any parts of the Training Programme you feel are:

Too short	Yes ☐	No ☐
Too complicated	Yes ☐	No ☐
Too long	Yes ☐	No ☐

If Yes, please specify

---

11 Has the training programme made you consider taking up further management development courses, or further education of any kind? Yes ☐ No ☐

12 After solving problems do/did you personally present the case to management?

Yes ☐ No ☐ Someone else ☐ Team presentation ☐

If Yes, do/did you always feel you get a fair hearing? Yes ☐ No ☐

13 How would you rate overall management attitude to Quality Circles? Indicate your response by circling your choice:

Very Favourable Favourable Indifferent Unfavourable Very Unfavourable

14 Why do you think Ethicon introduced Quality Circles?

---

15 If your circle no longer exists, could you explain why you think it was disbanded

---

D. Here are some changes Quality Circles can make. Could you indicate your response by encircling the words which correspond most closely to your opinion.

Quality Circles

a Improved my ability to supervise

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree

b Improved day-to-day relationships between myself and my co-workers

SA A U D SD

c Reduced my influence in departmental decision-making

SA A U D SD

d Developed team spirit within my section

SA A U D SD

e Reduced my confidence in my own leadership

SA A U D SD

f Increased management attention to my views

SA A U D SD

g Lowered the morale of my department

SA A U D SD

h Improved day-to-day communications between myself and my co-workers

SA A U D SD

i Reduced my ability to motivate my co-workers

SA A U D SD

j Enhanced my position within management levels

SA A U D SD

k Increased disagreements between myself and my co-workers

SA A U D SD

E. Quality Circles can mean extra work for the supervisor. Can you tick Yes or No to the following questions.

1 Do/did you enjoy the challenges of Quality Circles? Yes ☐ No ☐

2 Do/did they make your job more interesting? Yes ☐ No ☐

3 Do/did you find that Quality Circle duties interfered with your usual tasks? Yes ☐ No ☐

4 Do/did you work on Quality Circle tasks at home? Yes ☐ No ☐
If Yes, how many hours per week do/did you spend at home on these tasks? ☐

5 Do/did you feel there is pressure on you to make Quality Circles succeed? Yes ☐ No ☐
If Yes, do/did you find this pressure worrying?

---

6 Complete the following in your own words

Quality Circles are _____

F. This section is concerned with your general feelings towards Quality Circles.

1 What do/did you enjoy most about running your Quality Circle?

---

2 What do/did you enjoy least about running your Quality Circle?

---

3 Do you feel Quality Circles have generally improved working conditions?

Yes ☐ No ☐

Why do you feel this way?

---

4 All things considered, do you feel Quality Circles have been worthwhile?

Yes ☐ No ☐

If Yes, are there changes which could improve their worth?
If No, could you state why you feel this way.

---

5 Have the experiences of Quality Circles changed your attitude towards the company? Please indicate your response by a tick in appropriate space.

very much more favourable	more favourable	no change	less favourable	much less favourable
____	____	____	____	____

What was your attitude towards the company before Quality Circles?

very favourable	favourable	undecided	unfavourable	very unfavourable
____	____	____	____	____

6 Do you see Quality Circles still functioning in this Company in five years' time?

Yes ☐ No ☐

Why do you feel this way?

G. Here are a list of benefits Quality Circles can bring. Please rank them according to what you feel to be the most important to least important.

For example, if you feel number six "can lead to improved pay and salaries" is the third most important benefit, place a three in the box opposite it.

Quality Circles:

1	Safeguard employment by cutting costs	☐
2	Membership increases promotion prospects	☐
3	Develop team spirit through common goals	☐
4	Improve communications between management and workforce	☐
5	Develop leadership skills and qualities in circle leaders	☐
6	Can lead to improved pay and salaries	☐
7	Identify and solve work-related problems	☐
8	Make jobs more challenging and interesting	☐
9	Improve quality and quantity of goods produced	☐
10	Improve company image and loyalty	☐
11	Increase participation in departmental decision-making	☐
12	Improve the quality of working conditions	☐

Can you think of any other benefits of Quality Circles? If so, please state them below.

Thank you very much for your co-operation.

APPENDIX II

SUMMARY OF QUALITY CIRCLE PROJECTS - BENEFITS AND COSTS

QUALITY CIRCLE	TOPIC	COST SAVING ($)	COST OF INTRODUCTION ($)	BENEFIT
Winding	Shortage of Figure 8 Folders	2,100	-	Cost and Time Saving
	Height of Fixed Pin Winding Jigs	-	30	Time Saving
	Design of Funnels	-	-	Ergonomics
	Measuring Device for Suture Lengths	-	-	Operator Convenience
Attaching	Micro-Resin Weights	-	-	Operator Efficiency
	Housekeeping	-	-	Operator Efficiency
	Incentive Information Ready Reckoner	-	-	Operator Information
C.E.W.	Transformer Use	1,700	600	Reduction in Downtime
	Waiting Time at Stores			Cost Saving
	Lighting in Welding Area			Safety
	Internal Manufacture of Brass Machine Screws	600	-	Cost Saving
	Test Bench	-	110	Improved Service
	Overhead Wet/Dry Dresser	-	2,000	Improved Service

.....

APPENDIX II (cont'd)

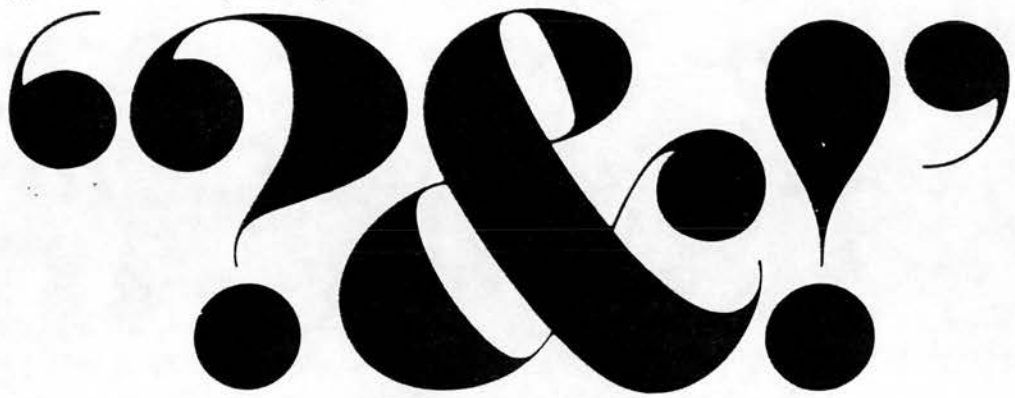
QUALITY CIRCLE	TOPIC	COST SAVING (£)	COST OF INTRODUCTION (£)	BENEFIT
Spinning	Housekeeping - Poles, Bands, etc.	-	300	Health and Safety
	Salvage Method in Spinning	-	10	Improved Efficiency
	Self Service	6,500	2,000	Even distribution of bundles
	Bin Stacking	-	60	GMP Improvement
Cartoning	Department layout of Overwrap Machines	-	-	Operator Convenience
Foil	Downtime Recording	-	-	Operator Information
	Foot pedal location	-	-	Health and Safety
Needle Finishing	Raw needle losses on Honing Machine	-	-	Control, and more accurate recording
	Needle Fault Classification	450	736	Standardisation of Defect Definitions
Needle Forming	Locker Layout	-	-	Environment
	Spare Parts for Channel/Index Machines	2,635 p.a.	265	Reduction in Machine Downtime

/ .....

APPENDIX II (cont'd)

QUALITY CIRCLE	TOPIC	COST SAVING (£)	COST OF INTRODUCTION (£)	BENEFIT
Premium Needles	2nd Edge Defect Identification	-	-	Consistent Identification
	Alternative Winding Method	-	800 p.a.	Time saving, easier winding
	Music Availability	-	-	Environment
	Batch Shortages	-	-	Identification of Batch Shortages
Looping/Hanging	Storage of Loops at Hanging	-	-	Easier operation
	Modified End Smoothers/Looping Clamps	-	-	More efficient operation
	Ventilation	-	-	
	Aprons	-	-	
Dry Process	Mixed Gauges	60	180	Less strings requiring re-gauging
Winding (Twi)	Improvements in Double Needle Suture Book	-	-	Cash benefits still being calculated by Industrial Engineering
Foil (Twi)	Sellotape Holders for Overwrap Machine	-	750 p.a.	Operator Convenience
	Foil Machine foot pedal location	-	-	Operator Convenience
C.E.W. (2)	Machine Shop Storage Units	-	-	Department Efficiency

Appendix VI Speak-Up forms used at IBM



Speak Up!

Before going ahead with your letter, think: Would raising your question or problem with your manager give you a faster and more personal answer? If you're asking for some simple action, is there someone in the Company already responsible for the subject, who could get you quicker results? If not, begin your Speak Up! below, continuing overleaf if necessary.

Subject: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

How Speak Up! Works

The IBM Speak Up! programme is designed to give you information in response to your questions, comments, criticisms and complaints on Company related subjects.

It is absolutely confidential. The only person who knows your name is the Speak Up! Co-ordinator. He needs to know this in order to reply to you, so please complete the details overleaf at the foot of the page. There are two ways in which your Speak Up! can be answered. You can either have a reply posted to your home or location, or you can choose to discuss the matter personally with someone qualified. In the latter case, you should be aware that your identity will, of course, emerge.

Remember, you can write on any subject related to IBM.

What to Do

1 Be sure there is no quicker way of getting a satisfactory answer.

2 Ensure you are not making a suggestion eligible for reward under the Suggestion Plan.

3 Use a separate Speak Up! form for each subject.

4 If you do not wish your letter to be published, be sure to indicate this in the box overleaf.

5 Mail your letter in any GPO letterbox using a prepaid addressed envelope from the Speak Up! box. If the internal mail system is more convenient, *use the same envelope* but clearly mark it 'By Internal Mail'.

866/

866/

Please fill in this section. It will be removed by the Speak Up! Co-ordinator on receipt. He alone will see it.

Your name Mr/Mrs/Miss/Ms

Home address

Should the Speak Up! Co-ordinator need to contact you in confidence to clarify any points contained in your letter, it would be helpful to him to have the following information at the top of the adjacent column as well:

Location

Division

Department

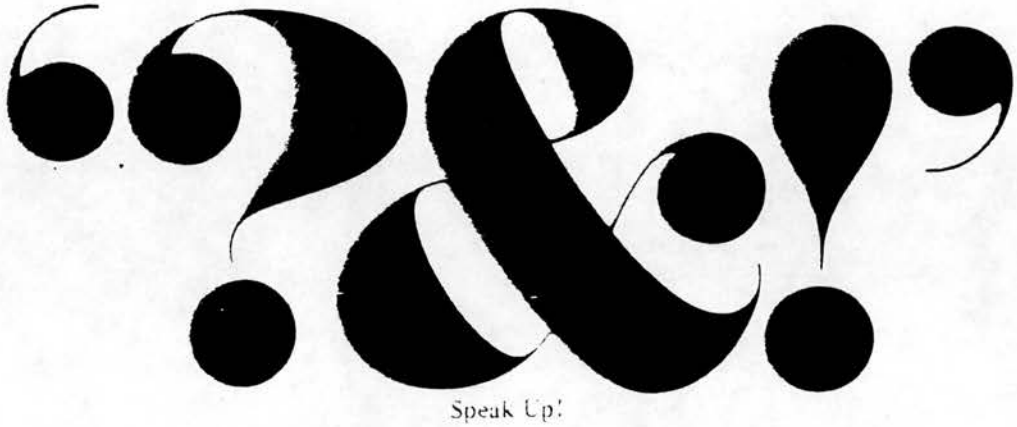
Extension number

Please answer the following three questions with either yes or no.

Would you like a reply sent to your home?

Would you prefer a personal interview?

May we publish your letter in 'UK News'?



Speak Up!

Before you use Speak Up! it is always a good idea first to consider any of the following:

* Talk to your manager, who may be able to give you an immediate answer, get one for you, or put you in touch with the right department.
* Call the department involved, to get a direct and immediate answer to your query.
* Check your Employee Handbook, the annual Employee Report, or the booklet IBM UK, which between them detail IBM history, organisation, finances, and benefits.
* Use the Suggestion Programme if you have an idea which may save the company money.

Subject: _____

_____

_____

_____

_____

_____

_____

_____

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_____

_____

How Speak Up! Works

Through the Speak Up! programme management will respond to IBM employees' questions, comments, criticisms, or complaints on any company-related matter.

Speak Up! is an **anonymous** programme. With a written reply, the only person who will know your name is the Speak Up! Administrator. If you prefer to discuss the matter in confidence your name will be known also to your interviwer.

Speak Up! is also a **confidential** programme. You may jeopardise that confidentiality if you discuss with others a Speak Up! you have written.

How to use Speak Up!

Use a separate form for each subject.

Complete the details requested on the reverse of this stub, seal the complete form in the prepaid addressed envelope provided, and mail it either in any PO box or in IBM internal mail.

As a further protection, your reply (or interview report) will be mailed to your home.

866/

866/

THIS STUB WILL ONLY BE SEEN BY THE SPEAK UP! ADMINISTRATOR, WHO WILL REMOVE AND SECURE IT, AND HAVE YOUR LETTER TYPED

Name (please print) Mr/Mrs/Miss/Ms

Pers No.

Home address

Post code

Please give the details requested below, to enable the Speak Up! Administrator to contact you, in confidence, should there be a need.

IBM Location

Operational unit/
Staff function (name)

Department (name)

Tieline & extension ::

Mark here is you do NOT want your letter and the reply to be published ☐

Mark here if, instead of a written reply, you prefer to discuss the matter, in confidence, with a qualified person. ☐